

# BUCHANAN'S

# JOURNAL OF MAN.

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Vol. I, No. 4.—APRIL, 1849.

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## ART. I.—PSYCHOMETRY.—(CONTINUED.)

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It is only those of peculiarly fine, sensitive and intellectual endowments, who can thus grasp, at once, the whole character, and speak of its details with the familiarity of thorough acquaintance. Generally, the opinion is formed, in a gradual manner, from a careful study of the impressions, and the character is opened up to the mind by a consecutive survey of its different relations. Frequently the writer will appear before the mind's eye of the psychometric explorer, with a characteristic expression of countenance and attitude illustrating some trait of his nature, or engaged in some characteristic act; and, after a time, he will appear in some other scene, equally characteristic, which has been actually a scene in his life, or which is a legitimate illustration of his disposition.

Oftentimes the scenes which are thus presented will be highly picturesque and poetical—happily illustrative of the true spirit of the man. In trying several autographs upon the head of the Rev. Mr. G., I was struck with several of his picturesque sketches. For example, in portraying the Rev. Mr. Bascom, the eloquent Methodist divine, who rose by his own energies from an humble position, he said, that the first scene that rose to his mind was an humble forest residence—a small clearing in the woods—the kettles hanging over the fire from forked sticks—a youth of studious disposition, cultivating his mind: then various transitions occurred—the country advanced in cultivation—villages and cities sprang up—the youth was observed in other scenes, and soon became a powerful, eloquent, and universally admired orator of the pulpit. In the autograph of the Rev. Alexander Campbell (the religious reformer), he

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recognized the spirit of a great leader, partaking somewhat of the traits of Washington and Lafayette, speaking with a different kind of eloquence, and amid scenes of simplicity and solemnity. I placed my own autograph upon his head, and it produced the scene of a leader or adventurer, marching on toward a distant height, while a multitude behind were looking upon his progress, and as he looked back he paused to wait until the foremost could overtake him. He appeared to be covered, as to his head, by a species of Roman helmet, which rendered him insensible to the missiles and weapons which he expected to encounter. As this was a true statement of my position at that time, I thought it a happy sketch; for I had slackened my scientific investigations, and was engaged in propagating my neurological discoveries, hoping that public sentiment might be gradually brought a little nearer to my advanced position in science. But, in this case, instead of locating the scene far off (in adjoining States), as in the cases of Mr. Campbell and Mr. Bascom, he said that all seemed to be located in Cincinnati; and the leader, with the helmet, appeared as if standing about the summit of the first hill, in receding from the river. It also seemed to him, that this personage had some connection with a locality on Lower Market street. This singular remark reminded me of the fact, that the locality of which he spoke, near the Lower Market, was, in reality, the place of my residence in childhood. The helmet, protecting the head from attacks, was a good illustration of the mental hardihood, which has made me ever indifferent to the applause or disapprobation of mankind. I feel that it is my natural place—my true vocation—to advocate unpopular truths, and to brave the odium which awaits those who ask the world to mend its ways.

When the psychometric inquirer is less imaginative, the scene which arises to the mind may be rather a matter of fact than a fancy sketch; and thus, in our intuitive conceptions, we find the sympathetic perception of character blending with the phenomena of simple clairvoyance. For example, I placed upon the forehead of an attorney, in Mississippi, the letter of a lady addressed to her husband. He immediately followed the leading impression, and traced it to her residence on the Ohio river, where he observed the lady and her children, whom he described correctly, excepting as to their sex. Sometimes the personal appearance of the writer will be correctly described, without reference to his situation. Frequently, the most important scenes through which he has passed, or which have been most vividly impressed upon his mind—or those in the midst of which he wrote—will rise distinctly in view. Thus the letter of Lafayette recalled the battle of Germantown—the letter of Washington Allston produced a beautiful painting, characteristic of his style—a poem, written by Ralph Waldo Emerson, produced a conception of the beautiful scenery of summer, which the poetry described. A DRAWING of a sea-shore scene produced the identical scene in the mind of the lady whose hand was in contact with the drawing, unconscious that it was not a piece of writing.



She was transported mentally to the scene, and fancied she could almost hear the humming of the insects in the air.

The material of the writing, or the method of conveying the idea, is unimportant. The poetry of Emerson, and the drawing of the artist, equally conveyed the scenes which they depicted. It is necessary only for the psychometer to come into contact with something upon which the author has affixed the stamp of his peculiar individuality. A drawing or painting will convey, as effectually as a letter, the conception of its author, and his mental efforts in its production. In thus exploring a portrait or a drawing, the psychometer not only obtains an idea of the artist, but also perceives the idea which the artist entertained of his subject. Hence, by contact with a portrait, he may describe both the artist and the subject of the picture. The same principle is equally applicable to autographs. The letter which conveys an idea of its writer, may also convey his idea of the one to whom he is writing, or of the one concerning whom he writes.

If then, man, in every act, leaves the impression, or daguerreotype of his mental being upon the scenes of his life and subjects of his action, we are by this law furnished with a new clue to the history of our race; and I think it highly probable, that, by the application of this principle, the chasms of history may be supplied, and a glimpse may be obtained of unrecorded ages and nations, whose early history is lost in darkness. The ancient manuscripts, paintings, and other works of art, which still exist—the crucifixes, garments, armor, and other ancient relics, still preserved—are doubtless still instinct with the spirit that produced them, and capable of revealing, to psychometric exploration, the living realities with which they were once connected. At present, these relics are barren of significance. Their hidden meaning lies waiting the future explorer, as the hieroglyphics of Egypt awaited the arrival of Champollion to interpret their significance. And why should not the world be filled with the monuments and unwritten records of its past history? It would seem, to the superficial thinker, that man was entirely limited to tradition and written records for his knowledge of the past; but physical science proves, that the world possesses, embodied in enduring monuments, the story of its progressive existence. The geologist finds, in the different strata of the earth, in its curiously mingled and irregular structure, and in the fossil remains which it conceals in its bosom, the history of its various changes of surface, and of the ante-diluvian races of animals which have long been extinct. The huge Saurian monsters, which he portrays from their fossil relics, rise before the eye as incredible chimeras. And over this fertile region, now occupied by prosperous States, he revives, by the magic power of science, the ante-diluvian seas and their strange inhabitants, unknown to man.

*The Past is entombed in the Present!* The world is its own enduring monument; and that which is true of its physical, is likewise true of its mental career. The discoveries of psychome-

try will enable us to explore the history of man, as those of geology enable us to explore the history of the earth. There are mental fossils for the psychologist, as well as mineral fossils for the geologist; and I believe that, hereafter, the psychologist and the geologist will go hand in hand—the one portraying the earth, its animals and its vegetation, while the other portrays the human beings who have roamed over its surface in the shadows and darkness of primeval barbarism! Aye, the mental telescope is now discovered, which may pierce the depths of the past and bring us in full view of all the grand and tragic passages of ancient history! I know that, to many of my readers, unaccustomed to these investigations, and unacquainted with the first experimental facts of this great science, these anticipations must seem a visionary hope—too grand, too romantic, too transcendantly beautiful, to be true. But observe, that all is based upon familiar experiments, and these results are but legitimate deductions from familiar facts. As surely as the expansive power of steam gives premonition of the ocean steam-ship, does the power of psychometry give promise of all the glorious performance to which I have alluded. The world, although well acquainted with the expansive power of steam, laughed at Rumsey, Fitch and Fulton, when they were constructing steamboats: and when they were careering proudly over our “inland seas,” the idea of crossing the ocean in a steamship was pronounced impracticable, by men of science, up to the very time of its consummation. How timidly do we shrink from following an established principle to its legitimate results!

Does not every psychometric experiment demonstrate an indefinite range of the intuitive power? The psychometer is not limited to a perception of the thoughts of the writer at the moment, but appreciates his entire being—enters into his emotions—his relations to society, and his past history. Aye, in many instances, the whole career of the individual is opened out before the observer, and he traces that career from childhood to death. Let us apply this principle. Could we obtain any authentic relics of Julius Cæsar, of Cicero, of Plutarch—of Pericles, Plato, or Solon—of Alfred the Great, Confucius, or Mohammed—the ancient writings of the Hindoos, or the hieroglyphics of Egypt—and could we from these evoke the pictures of the past, as we do from an ordinary manuscript, how thrilling would be the interest with which we should listen to this resurrection of lost history!

Why should this be impossible? Does the mental impression attached to a manuscript ever evaporate, or become effaced? Does the old manuscript cease to be legible to psychometric power when a certain number of years have elapsed? It may be, that there are certain limits to these experiments, or certain difficulties in the way of their extension, but I have not yet found any manuscript so old as to be beyond the reach of this method of exploration. The autographs of Franklin, Washington, Jefferson, Burr, Knox, Schuyler, and others of the Revolution, gave prompt and dis-

tinct impressions. The oldest manuscript which I have subjected to such investigations, was that of a clergyman of the Church of England, in which the characters were so antiquated in style, as to render it very difficult to decipher. This letter, dated in 1637, appeared to be a solemn protest or remonstrance against some arbitrary exercise of power by his Bishop, which he regarded as an encroachment upon his religious principles and rights. When this manuscript was placed upon the forehead of Judge F., he perceived in it a deep feeling of gloom, and described it as being such a feeling as might have been entertained by a patriot, in the dark hours of our Revolution—by a physician, during the prevalence of yellow-fever in Philadelphia—or by a protestant, in the time of the persecution of the protestants by Queen Mary. He described the writer as a man of deep feelings and affections—of strong intellect and of eloquence—inclined to meditate upon a future life, and to adopt the pursuits of a clergyman—disposed to resist injustice, but to curb himself by religious principles—as being a man about forty or fifty years of age, and existing at some period not very recent. The Judge possessed no decided capacity for locating his impressions as to place or time. But others, with a better development of Locality and Time, have attained considerable precision. Maj. P., who had been a great woodsman and traveler, appeared to decide with but little difficulty, when exploring a letter, from what section of the country it had been written.

Since, then, there is no limit to the accuracy or extent of our perceptions, but that which arises from the imperfect development of our faculties, it is impossible to set any bounds to the future explorations of gifted individuals. In these days, so rapidly are our anticipations realized, and sanguine hopes converted into accomplished facts, that I cannot refrain from thus predicting the future range of psychometric power, however extravagant the prediction may seem to a portion of my readers. If there are any who cannot at all digest these predictions, let them lay aside, upon their shelves, Vol. I of the *Journal of Man*, that it may improve like a bottle of wine, by age; and when they have grown old, with a mind expanded by a wider experience of the progress of knowledge, let them re-peruse the old volume and compare its prophecy with the living verification.

But, it may be asked by the practical man, cannot this power be applied to the daily purposes of life, as well as to the exploration of history? Why should it not assist our inquiries into the guilt or innocence of those who are arraigned before our courts of law? I know no reason why it should not. Indeed, I have no doubt that, with the proper means and arrangements for the investigation of character, a scientific tribunal for the decision of all controversies between man and man might be established, which would come much nearer to exact justice than we can possibly reach, by our present cumbrous judicial system and laws of evidence. To propose such a tribunal would, at the present time, be premature; but

there is no reason why the science should not contribute its light to elucidate any obscure facts, or traits of character, which may have a bearing on the case that is tried. If the jury, and the public generally, were aware of the power of psychometry, the statement of the results of a psychometric investigation, under proper circumstances, would have a decisive influence upon their opinion; and such a statement, from competent persons, might be admitted upon the same principle that the testimony of medical men is often demanded, in cases of homicide, lunacy, &c., to assist in determining the facts by means of the resources of science. I have no doubt that this kind of testimony will be introduced into courts, after the principles of psychometry have become generally known and established. In the delicate class of cases arising from the charge of lunacy, as well as in those involving high crimes, there are no methods of exploration which can compare with psychometry, as to the power of ascertaining the truth or falsehood of the charges. I do not mean that every psychometric experiment should be taken as oracular, but that, when a sufficient amount of intellect and caution are exercised in the investigation, the results are accurately true.

If the individual accused of crime, or lunacy, has written a number of letters during the period embraced by the accusation, his mind may be traced through all the phases of excitement to which it was subjected, and the truth or falsehood of the charge clearly ascertained.

A letter, written by a clergyman confined in the penitentiary, was submitted to my investigation. The various degrees of guilt, indiscretion, melancholy, contrition and anxiety which it revealed, formed an interesting subject for study. Soon afterward the man was pardoned. The discretionary exercise of this pardoning power is a task of no little delicacy and difficulty—liable to great abuses—while the arbitrary periods of confinement, fixed by law, have little reference to the proper aim of punishment—the reformation of the criminal. If the term of confinement were made indefinite, and determinable by the moral condition of the prisoner, then the observation of his conduct, and the psychometric scrutiny of his character, might determine when, with safety to society, he could be released from prison, or how much more he needed of its reformatory influence.

As to the detection of crime by this means, there have been some instances recently, in the United States, of the detection of crime by means of clairvoyance; and about two hundred years ago, an humble peasant, in France, exercised the same power of which I speak, and in the same manner. He visited the spot where the murder had been committed, and when he came upon the ground, or touched the instrument with which the deed had been performed, he was greatly agitated by the impression which was imparted. By means of this impression, he acquired an idea of the murderers and their movements, seized upon their trail and pursued them from house to house, and from village to village, until he actually

found them. The wonderful performances of this man were attested by magistrates and physicians, in a public manner, and were matters of so much public notoriety at the time, as to cause him to be presented at court.

The establishment and use of such powers, for the discovery of innocence and guilt, will have a most salutary influence upon society. I do not mean to suggest, that any testimony of this kind shall be introduced upon the same authoritative footing as the oath of a citizen, in reference to any matter which he has witnessed, but merely, that the indications and authority of science should be appealed to upon this, as upon any other subject. I do not propose any new statute upon the subject, or any departure from our present legal usages. I merely suggest, that when psychometry shall take its place among established sciences, it will, of course, be recognized with the same degree of respect as other branches of knowledge which appertain to the medical profession: and, as the physician is at present appealed to, in a case of homicide, to determine the probable cause of death, and the possibility of its having been caused by accident, or by the violence of the prisoner—so, when his range of professional knowledge is increased, he will testify from the evidence, not only of surgery, anatomy, chemistry and toxicology, but also from psychometry. At the present time, an intelligent physician would seldom testify upon the subject of insanity, without bringing into play the knowledge derived from phrenological science, or any other source which might be accessible. When I have been called upon to testify upon the charge of insanity, in court, my professional knowledge was appealed to, without any reference to its source; and I, of course, testified upon the principles of neurological science, which affords the only satisfactory explanation of insanity that has ever yet been given.

Thus will psychometry, or any other science which may be capable of throwing light upon the matters before the court, be brought to bear by men of science, or other witnesses, whenever the soundness and authenticity of such knowledge is generally admitted. In the mean time, those who dread all changes, need be under no apprehension, as the change in question can only take place when it has been sanctioned by the general sentiment of men of science.

The knowledge of such an improvement, in our methods of studying mankind, will have a powerful influence in checking crime. The temptation to crime arises from the hope of security and escape. But when the criminal knows that the Argus-eyes of his fellow-beings are capable of tracing him through all the devious ways of his life—when he knows that his secret acts, his criminal designs and attempts, all lie bare before the spiritual eye of man—he will find himself compelled to abandon his crimes. When thus society, with all-seeing but benevolent eyes, superintends his movements, and with its millions of strong arms reaches forth to lead him back into paths of peace and virtue, there will be an end of the high crimes that now disgrace our people.

The recognition and general cultivation of psychometry, when among the millions of psychometric seers there will be men of the highest order of genius, talent and wisdom, will fully realize these hopes. The introduction of this science will operate like the introduction of brilliant gas lights into the dark and crime haunted streets and alleys of a populous city. The crimes which previously revelled in security, will be compelled to retreat from the luminous thoroughfare.

Not only will the criminal be held in check, but all of us will feel the monitory and restraining influence of this knowledge. When we know that, in every act of our lives, we are tracing a biography which may be read by a thousand eyes—when we know that it is utterly impossible to be selfish or vicious and conceal the fact—when we know that it is utterly impossible to gain credit for virtue, without having it in our inmost nature—and that if we do cherish noble sentiments, they will not be concealed from the eyes of those whom we respect—when we know, in short, that we shall appear to others, in all things, *as we really are*—many will wake up from their hollow and hypocritical life to the cultivation of real virtue; and all will feel, in their private lives, the same restraining, yet elevating influence which is produced by the presence of a good friend, before whom we are ashamed to indulge any little exhibition of a selfish or a petulant spirit.

It is true, the passion of secretiveness may at first rebel against such anticipations; but this passion, the source of hypocrisy, lying, false modesty, jealous reserve, deceit, moroseness and treachery, has too long ruled and corrupted mankind. The truly frank and virtuous man feels that there is not an act of his life which he would fear to have exhibited in the eyes of the universe; and he who from a guilty shame recoils, or, from the pure love of mystery, regards concealment as one of his highest privileges, must be expected to cherish the old system of mystery, and to protest against phrenology, physiognomy, psychometry, and every other road to the knowledge of human nature. To such objectors I would simply remark, that men will always be eager to form opinions of their fellows; and, whether right or wrong, these opinions will be current in society, and will form the basis of our action. The question, therefore, is, whether we shall have vague notions, prejudices, slanders, and idle gossip, or whether we shall have the just, systematic, and charitable knowledge of our fellow-man, to which we are conducted by science.

Yet I would by no means sanction the idea, that psychometric investigations will always lead to accurate results, or may not be abused and perverted. As law, medicine, divinity, phrenology, &c., have all their quackeries or perversions, so will psychometry, in the hands of the ignorant, the unprincipled, the prejudiced, and the reckless. A psychometric opinion may be as calm, dispassionate and pure as the thoughts of an angel, or it may be influenced by all the emotions of love or hate, of reverence or scorn, which influ-

ence our ordinary judgments. In pronouncing upon the characters of our distinguished politicians, Mr. Clay, Mr. Calhoun, and Gen'l. Jackson, I have often found the psychometer as decidedly biassed in favor of one, or against another, as if he knew of whom he was speaking. Soon after the battles of Palo Alto and Resaca de la Palma, I was traveling upon the Mississippi, and fell in company with an accomplished lady, the wife of one of the officers, who had distinguished himself in the service. We were trying several psychometric experiments, when one of her friends privately handed me a letter, written by her husband from the camp, immediately after those memorable battles. I had already observed, that her impressions were unusually dependent upon her feelings, and that she would, in all cases, as she liked or disliked the character, elevate or condemn it in her description. I placed her husband's letter upon her forehead, and immediately she manifested a lively agitation of her feelings. Her bosom heaved with the intensity of her emotions—tears came into her eyes—and she was herself amazed at the tumult of feeling produced. Yet she declared the impressions to be more delightful than any she had yet experienced. She was peculiarly charmed with the character, and when, being a little more composed, she was asked to give her opinion, she exclaimed, "*Oh, he is the very soul of honor!*" She then went on, in a very full description: stated that he was a military man—that he was very fond of hunting—that he was popular in his manners—a good writer—occupying a rank below that of Colonel, &c., &c.—in short, gave a description, which, making some slight allowance for a wife's partiality, was certainly very correct.

The fact, that such emotions should have been called forth as vividly as if she had been in actual mental intercourse with her husband, when she was utterly unconscious of their cause, demonstrates the necessity of caution in all such investigations. But it demonstrates something important, in reference to the laws of mental association, which may be illustrated also, by another experiment. I placed in the hands of an impressible lady, a letter from her father, who was dead, and for whom her grief had not yet been removed. In a few moments, as she commenced speaking of the character, a deep sadness came upon her; unconscious of its cause, her eyes filled with tears, and I removed the letter without letting her know its source, although she continued for some days exceedingly curious to know what could possibly have called forth her emotions so strongly while holding that letter.

Thus, it appears that there are deep currents of feeling, which flow beneath the surface, without entering into the *daylight of consciousness*. In these subterranean streams of emotion (to borrow the language of poets) heart speaks to heart; and the magic ties which bind us together in love, are formed in the darker chambers of the soul, where reason, reflection and observation, have no place.

It is not true, therefore, that intellect is the sole medium of association. Feelings are linked to feelings, and one emotion arouses



another, without our consciousness or consent. It is not through the understanding that the orator calls forth the passions of his audience. Strong feeling magnetically rouses and moves all within its sphere, whether there may or may not be any sentence uttered, which is worthy of being read.

This mental magnetism may exert its influence upon psychometric investigations, but will be far less delusive in them, than in the ordinary intercourse of mankind. The character investigated becomes, in such cases, a passive subject of scrutiny, and not an active party to the process, and is thus disabled from overawing or controlling the psychometer. An intelligent and amiable lady of Boston, when scrutinizing the autograph of a distinguished public man—a man of science (no longer living), who enjoyed an exaggerated reputation during his life—described his powers and his influence upon the public mind, with great correctness, but perceived that there was a certain lack of soundness in the character, and that he would be apt to pass for a better man than he really was. She remarked, that there was something imposing in his appearance and talents, and that many would be imposed upon by his exterior, so as to estimate him much higher than he deserved. I asked her, how she supposed it would have been with herself; whether, if she had seen him, she would have discovered his true character, or have been carried away, like the rest, by his exterior appearances. After a little reflection, she replied, that she would, probably, have been carried away, like the rest, and joined in their admiration. I then gave her the name, and she found that it was even so; it was the name of one whom she had been accustomed to revere, and whose faults she had never before suspected, although they were known to the discerning few. Thus, the same individual manifested, in a psychometric decision, a much greater acumen and power of conceiving character, than in her ordinary social observation. And, although the partialities of friendship may occasionally interfere with the correctness of the decision, I have often found the psychometer capable of pronouncing, with perfect impartiality, upon the characters of intimate friends.

It is necessary, of course, that he should have a predominance of the intellect over the feelings, and should have sufficient self-control to resist the exciting influence of the letter. A lady of vigorous and well-cultivated intellect, but of very delicate physical constitution, who had fine psychometric powers, was, nevertheless, so sympathetic and excitable, as to be sometimes completely carried away by the influence of the character which she described, and lose all self-control.

The autograph of Mr. Clay, especially, produced this influence upon her. She soon became so possessed of its spirit, as to feel herself a distinguished public character, engaged in matters of great moment; and, forgetting entirely the experiment, she replied haughtily to the questions which I proposed, as though she considered them quite impertinent or insulting.



When we are so fortunate as to meet with an individual who is perfectly clear-sighted, impartial, self-possessed, and accurate in judgment—and when we have tested his powers in various investigations, it will be interesting to submit our own manuscript to his critical examination. It is so seldom that we find even a friend disposed to analyze our character, and set forth, distinctly, our virtues and our faults, that it is no mean luxury to be able to hear, from a good psychometer, a full and free analysis of ourselves, without fear, favor or prejudice; and thus be assigned our true place in the great scale of human character, while he who decides upon our merits is utterly unconscious who may be the subject of his decision. He who delights in the luxury of plain, unvarnished truth, may thus be fully satisfied. He who is aiming to perfect himself in every trait of character, will find, in the searching yet genial criticism of Psychometry, the assistance which he needs—the mirror in which to scan his own countenance.

It is probable that no one has ever attained a high perfection of character—has developed, properly, the strength and beauty of his nature—without often undergoing the searching scrutiny of his own conscience, taste and judgment, to ascertain his deficiencies, and learn what additional power was needed. It is only by patient study, and unwearying attention to details, that the artist is enabled to produce a statue which may be admired. Equally careful and minute is the critical examination which we must give ourselves, if we would attain any high moral excellence. In the rude block of marble, which represents the character of an uncultivated human being, a beautiful statue lies concealed, which the gifted and untiring artist will bring into view. But the beautiful form of the noble character can be brought out only by this critical process, and there are no means within our reach more truly efficient in criticism than Psychometry.

To form and reform the character—to build up the strength of our moral and intellectual nature—and to advance continually in all that is worthy of esteem, are the noblest aims of life. He who has no such aspirations, has not the true spirit, either of philosophy or of religion. Goodness and greatness are ever progressive qualities. Each act of kindness enlarges the heart, confirms our virtue, and lends additional beauty to the countenance—additional sweetness to the voice. Each act of intellectual power adds to our treasury of knowledge, and enlarges our range of thought.

Moral and intellectual growth should be the great aim of life; and, although the prevalent teachings of the day are poorly adapted to urge and guide this growth, he who has the assistance of Psychometry, may find the means of discharging his first great duty to himself.

From the extent of the subject, I must deal in hints, rather than explanations—in sentences instead of essays. I must leave to the ingenious reader, who engages in these experiments, to ascertain the best methods of scrutinizing himself—noting his own defects, and

applying the appropriate correction indicated by Neurology. I might narrate a portion of my own experience in self-scrutiny, and in application of science to personal improvement; but, notwithstanding the examples of Rousseau and Lamartine, I should find it rather difficult to lay aside that feeling of personal reserve, which is common wherever the English language is spoken, and which induces us to shrink from presenting, before the public, trivial details which relate merely to self. But, I can assure the reader, this study of self is most intensely interesting, since it is through self-consciousness that we obtain the most thorough knowledge of mental philosophy, and all our studies of this subject become practical lessons in virtue and happiness.

Self-education, guided by self-study, is the great duty of human life. For the young, who are not yet competent to self-study and self-amendment, this duty must be performed by others. To understand, properly, the immature characters of youth, and the successive course of their development—to appreciate their diversities, and estimate their latent powers—require not merely craniology, physiognomy, and personal intercourse, but the sympathetic and delicate powers of Psychometry. This enables us to understand a character differing widely from our own, and to appreciate the peculiarities of each, in reference to an exact scientific standard. All who have assiduously cultivated themselves, know how greatly their own characters and mental powers would have been improved, if their early education had been guided by persons who possessed this delicate appreciation of character, and who could judiciously supply each defect, until the whole was formed into symmetry.

A good psychometer possesses a sympathetic perception, which enables him to conceive a character very foreign to his own, and even to appreciate the capacities and unfolding powers of a child. It is possible that, by the proper exercise of this power, the whole career and probable vices, as well as physical infirmities of the child, may be so fully anticipated as to enable us effectually to prevent any serious evil effecting the moral character or physical constitution.

But these diagnostic examinations will be practiced principally by means of direct contact with the head, learning from each organ its exact condition. This method, which is similar in principle to the experiments upon autographs, may be appropriately referred to the essays upon Sympathetic Diagnosis and Nervous Impressibility.

[In the next essay I shall consider the application of Psychometry to public characters.]

## ART. II.—CRANIOLOGY AND CRANIOSCOPY.

CRANIOLOGY was the name originally used by Dr. Gall for the science of which he laid the foundation. This name indicated the most prominent feature of his researches, for he was principally engaged in the study of cranial development, as the most satisfactory method of learning the forms and functions of the brain. But as the cranium and brain were studied merely as the apparatus of the mind, and indices of its powers, the term Phrenology (science of mind) has been generally substituted for Craniology (science of the cranium).

The use of the term Phrenology recognizes the *mind* as the subject of our study, and regards the brain and cranium as of subordinate importance. Craniology (the science of skulls) is intimately connected with Phrenology or mental science; yet neither name occupies the central position of Anthropology, for neither name signifies the *science of the brain*, and neither is sufficiently comprehensive.

The science of the brain, and all the forms of nervous matter, is signified by the term NEUROLOGY—the comprehensive term which includes all mental and vital phenomena, as they are all connected with nervous matter.

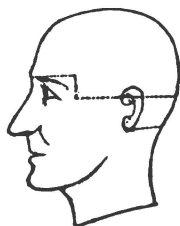
CRANIOSCOPY, the science or art of surveying and estimating the cranium, is the proper term for what is commonly called practical Phrenology. There are many CRANIOSCOPISTS, or practical phrenologists (as they are commonly called), who are not critically acquainted with the anatomy of the brain and cranium; but it is obvious that a good cranioscopist should be thoroughly acquainted with the anatomy of the head. Indeed, some important errors are quite common among the cranioscopists of Europe and America, from the lack of critical attention to the facts of anatomy.

The human brain is situated within the cranium—a firm, bony box, by which it is mechanically supported and securely protected from injury. The cranium also regulates and restrains the cerebral circulation of blood, preventing the blood vessels from distending so as to injure the soft structure of the brain. The cranium forms a solid and complete wall around the brain, except at certain apertures in the basis of the skull, called *foramina* (or holes), through which its nerves and blood vessels pass. The principal foramen (called *foramen magnum*) lies near the middle of the bottom of the skull, midway between the ears, and slightly further back. Through this descends the *spinal cord*, the great medium of connection between the brain and body. The *foramen magnum* is necessarily near the middle of the basis of the skull, as the *condyles*, or prominences upon which the head is balanced, are at the margin of this foramen. There are some smaller foramina in the basis of

the skull, for the passage of the nerves of the face, eyes, nose, mouth, and for the large blood vessels.

With the exception of these foramina, filled by the nerves and blood-vessels passing through them, the skull is a solid body, and resists any change in the form or proportions of the brain. Those who are not acquainted with physiology, sometimes suppose, that this fact destroys all the value and truth of cranioscopy. But they forget that the cranium always accommodates itself to the growth of the brain by growing, and by changing its form in the progress of development from childhood to manhood. If, after attaining manhood, the brain should continue to grow and modify its shape, the skull is still capable of growth, as at an earlier period.

**POSITION OF THE BRAIN.**—The brain lies within the cranium, above the orbit of the eye, the face and the neck. The vault of the eye socket or orbit, is formed by a thin plate of bone (a part of the frontal), upon which the front lobe of the brain rests. The eyebrows are about upon the level of this supra-orbital plate—consequently, they show us how low the frontal portion of the brain descends, except at the outward extremity of the brow, where the brain rises a little higher than it does internally at the root of the nose. By taking hold of the *external orbital process* of the frontal bone in our own head (see plate), we can easily observe that it projects more than half an inch below the bottom of the front lobe of the brain. Consequently, a line to indicate the basis of the brain, should commence at the internal end of the brow—run outward, ascending slightly—continue back, horizontally, upon the temples, about an inch—then descend behind the socket of the eye to the margin of the cheek bone, and continue backward, horizontally, around the head, passing just over the meatus auditoris (opening of the ear), and terminating on the occiput at the occipital spine or knob, which can be felt, upon most heads, as a decided sharp protuberance upon the median line. All the cerebral convolutions which form the *cerebrum* lie above this boundary. But a portion of the skull, which runs below this line, forms a double concavity in the neck behind the ears, containing that portion of the brain which is called the *cerebellum*. The *cerebellum* (or little brain) lies behind the ears, below the *cerebrum*, and upon the level of the lower portion of the ear. It might be compared in shape, to two turnips which had grown together by their adjacent surfaces; while the *cerebrum*, or principal brain, being of a more elongated shape, might be compared to two beans, connected and compressed together.



The line above described as the basis of the cerebrum, passes (behind the ears), along the level of the *tentorium*, a membrane which stretches firmly across the basis of the skull, and separates the *cerebrum* and *cerebellum*. If we pass our hands along this line to the occipital knob, we may discover upon the skull, a horizontal

ridge and furrow corresponding to the position of the tentorium or basis of the cerebrum. All below this line is occupied by the cerebellum.

With this description of the position of the brain, we perceive why all organs, as externally marked upon the skull, should terminate at the boundary above described. But there is a considerable portion of the brain in contact with the basis of the skull, which is concealed by the face and neck, and, consequently, not included heretofore in this external mapping of the cranium. This portion of the surface of the brain contains important organs, and if their functions are known, it is necessary that they should be indicated upon our phrenological chart. As Neurology has developed those functions, it marks the names of these organs upon the proximate portions of the face and neck, through which the locations in the brain may be reached. Thus the organs marked upon the face occupy that portion of the surface of the brain which is covered by the face.

*Method of Examining the Head.*—The manual examination of the head for the purpose of learning its phrenological indications, is usually performed in a very imperfect manner in the first attempts of phrenological students. They generally place one or two hands upon the head, not with a view to learning its general contour, but for the purpose of hunting out its *bumps* or protuberances, by passing their fingers over the surface. This is precisely what they should not do. The whole hand should be used—not the extremities of the fingers. They should place the whole hand gently upon the head—not rubbing it, nor moving the hand enough to disturb a single lock of hair, but using a gentle pressure, with a slight vermicular motion of the hand, so as to move the integuments upon the cranium. Thus there will be no friction between the hand and the scalp, but a gentle gliding of the scalp upon the cranium, so as to give us a perfect conception of the form of the bone undisturbed by friction—the form being thus ascertained as well as if we were examining the naked skull.

If we used merely the ends of the fingers we would obtain no adequate idea of the form of the head. The idea of form is obtained by the simultaneous perception of a number of points, lines, or forms, which, by their co-existence, determine the contour of the object. By using the ends of the fingers merely, we acquire ideas of a few points consecutively which do not constitute any important portion of the form of the head, whereas, by using the whole hand, we obtain at once, a conception of a large portion of the surface of the cranium.

The examination for *bumps* is altogether delusive. Bumpology is not Cranioscopy nor practical Phrenology. Strictly speaking, bumps do not indicate cerebral developments; they belong to the bony structure of the skull above, and should be omitted in our estimates of development. A bump is a bold, well defined prominence, of a rather abrupt character; such prominences never arise

from the growth of the brain. The convolutions of the brain, when they modify the form of the cranium, produce gently swelling, spherical contours. If, then, we imagine all the bumps removed from the skull, the remaining outline will be the proper form from which to judge of development.

*The bumps upon the cranium* occur in regular positions which anatomy indicates. At the back of the head, upon the median line between the cerebrum and cerebellum, we find the occipital spine or knob. Behind the ear we have the mastoid process. On the side of the head, running upward and backward from the brow, we have the temporal arch which often forms a very distinct ridge from the forehead to the middle of the parietal bone. The different sutures are frequently accompanied by bony irregularities and prominences, excepting the squamous suture, which is smooth and imperceptible to the touch of the cranioscopist. The ridge of bone at the brow, called the superciliary arch, and its most prominent portion, the external orbital process, must be omitted from our calculation in estimating the developments at the basis of the front lobe. If we examine this ridge in a skull, we find that it projects in an abrupt manner, half or three-fourths of an inch, and that the external protuberance differs widely from the smooth, curving outlines of the interior.

*Interior of the Skull.*—When we examine the interior of the cranium we find it marked by the digital impressions of the convolutions which are frequently quite distinct, and by the blood-vessels which lie in contact with the internal plate of the bone.

If we look at the basis of the skull, we find three divisions distinctly marked, which correspond to the three lobes of the brain which they accommodate. The anterior platform which supports the front lobe consists of the supra-orbital plate of the frontal bone, which forms the vault of the orbit. The middle space which lies about an inch lower, and behind the orbit of the eye, receives the middle lobe of the brain, which rests upon the sphenoid and temporal bones. We observe, at the back part of this middle space, the petrous ridge of the temporal bone, which constitutes its posterior boundary. From this ridge, to its fellow of the opposite side, and along the occipital bone, is extended the *Tentorium*, upon which rests the posterior lobe of the cerebrum, and beneath which lies the cerebellum.

*Cranial Bones.*—The cranium consists of five bones, the frontal, occipital, parietal, temporal and sphenoid; each of which is double and is originally formed in two distinct halves, which unite on the median line. These bones are connected by sutures or seams, called the *coronal, sagittal, lambdoid and squamous*. The sphenoid bone lies in the central basis of the skull between the frontal bone before, the occipital and temporal bones behind, and the parietal bones at the side, with each of which it is in contact. The wings of the sphenoid appear in the temples behind the orbit. They also help to form the back of the orbit, where they lie between the eye

and the brain. The sphenoid bone somewhat resembles a bird or bat with out-stretched wings, from which resemblance it obtains its name.

The frontal bone (*os frontis*) occupies all the space from the sockets of the eyes upward, constituting the forepart of the cranium, and extending to the coronal suture, across the middle of the upper part of the head. The frontal bone (and the occipital) being originally formed in two symmetrical halves, the junction of these upon the median line is frequently marked by a suture extending upward from the root of the nose; but, in the majority of cases, the bones are consolidated into one, upon the median line, and no suture is visible. The bones are originally formed as a cartilaginous membrane, which becomes solidified into bone by the deposit of earthy matter, chiefly phosphate of lime, which commences about the center of the bone, and proceeds in rays toward the circumference. The centers of ossification, for the frontal bone, are located at the two points in the forehead, which frequently present a slight prominence about the center of the location usually assigned to *Causality*.

The parietal bone is of a quadrangular form, so bent in the middle as to cover the top, side, and back of the head. It unites with its fellow of the opposite side, by the sagittal suture, which may be distinctly felt upon the top of the head, running from the coronal suture to the middle of the occiput. Its name, sagittal, is derived from sagitta (an arrow), on account of its arrow-like straightness, and lying between the coronal and lambdoid sutures like an arrow between the string and bow. The center of ossification for the parietal bone, is at a point about three inches above the back of the ear, which presents a prominent angle between the side and the top of the cranium, near the middle of Cautiousness, as located by Gall and Spurzheim. This is a central point among our cerebral organs—intermediate between the moral and the animal, the energetic and the feeble—free from any perturbing impulse, and indicating, by its development, a sound and well restrained condition of the mind. The center of ossification of the frontal bone, corresponds to the reasoning powers, which lead us to truth, and the prominence of these two points, at the centers of the frontal and parietal bones, indicates solidity of mind, and capacity for investigating and determining what is true.

The occipital bone constitutes an important portion of the back part and basis of the skull. Its superior angle lies about the center of the occiput, between the parietal bones, with which it connects by the lambdoid suture. Near the ears it connects with the temporal bones, between which it lies, in the basis of the skull, extending forward so far as to join the body of the sphenoid bone. The occipital bone contains the great foramen for the passage of the spinal cord, the condyles upon which the head is supported, and the double depression for the reception of the cerebellum.

The temporal bone contains the apparatus of hearing, and presents externally, just behind the ear, the long prominence called the

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mastoid process. This bony ridge, in which the nerve of hearing is situated, is called, from its superior density, the petrous, or stony portion of this bone. It gives great solidity to the basis of the skull. The temporal bone is bounded above by the squamous, or scaly suture, at which it overlaps the parietal—anteriorly by the sphenoid, and posteriorly by the occipital. A bony process, projecting from the temporal bone, unites with the malar bone to form the zygoma (or yoke), underneath or through which the temporal muscle passes, attached above along the temples, and below to the lower jaw, which it clenches firmly in mastication. The bulk of the temporal muscle is sometimes sufficient to enlarge the apparent developments in the temples; but we can easily make the proper allowance by placing the hand upon it, and requesting the individual to close the jaws firmly. By alternately closing and relaxing we may perceive, distinctly, the volume of the muscle.

The ethmoid bone, which is usually spoken of among the bones of the cranium, really belongs to the nose, and has no connection with the brain, excepting that it fills a small fissure in the frontal bone by its cribriform or sieve-like surface, through which is transmitted the olfactory nerve. This bone lies between the eyes, and contributes to their separation, producing that breadth between the eyes upon which cranioscopists have been accustomed to rely as the indication of the organ of Form. An examination of the skull will show, clearly, that the convolution of Form does not descend so far between the eyes as to exert much influence upon their separation, while the ethmoid bone, which lies directly between them, necessarily determines their distance apart.

*Influence of the Brain upon the Cranium.*—The bones of the skull are composed of two lamina, or plates, between which there is a cancellated or cellular texture, greater in quantity as the bones are thicker. Along the lower part of the temples, in the squamous portion of the temporal, the wings of the sphenoid, and the supra-orbital plate of the frontal, it is scarcely perceptible. The internal lamina of the cranium, which is in contact with the brain, is continually undergoing modifications of form by the influence of the adjacent convolutions. This modification of the skull, by the brain, does not arise from any considerable mechanical pressure of the brain upon the skull, but, from the laws of vital action, and the admirable adaptation which exists between the different parts of the human body. It is a law of the human constitution, that the hard parts shall give way to the soft; and that wherever the expansion of any structure requires additional room, the adjacent parts, shall be absorbed sufficiently to accommodate the growth. Thus, whenever any of the convolutions, or organs of the brain, become unusually active, their circulation of blood being increased, they expand somewhat in size, and are nourished more rapidly, so as to increase in absolute bulk. At the same time the bony substance is gradually absorbed, and the form of the convolution becomes impressed upon the bone.



In examining the interior of the skull, we find, that wherever the brain has been very active, the convolutions have made their digital impressions upon the bones; but, where the organs have been inactive, the bones have no such impressions; on the contrary, the internal plate is smooth, and instead of yielding before the brain, appears to grow inward to fill the deficiency caused by its absorption. Thus the skull becomes remarkably thick in those portions which cover inactive organs, and remarkably thin at the localities of the most active organs.

Sometimes the entire half of the brain has been atrophied, and one-half of the skull correspondingly thickened in consequence of one-half of the body having been paralyzed for a great many years.

In the greater number of crania, we find that certain organs about the basis of the skull, which are associated with the animal functions, are distinctly impressed upon the adjacent bones. The perceptive convolutions of the front lobe, which are necessarily active in all cases, are very distinctly impressed upon the supra-orbital plate; and even the petrous portion of the temporal bone, hard as it is, receives very distinct impressions from the adjacent convolutions.

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### ART. III.—CAPITAL PUNISHMENT.

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I do not propose, at present, to develop my views in detail upon this most interesting question. It is a subject of great importance—a *many sided* question—in discussing which we may glance at a great variety of philosophic principles. I would simply review the lecture of Prof. CALDWELL, now lying before me, upon this subject. This lecture, delivered last August, before the Jefferson Literary Society of Augusta, Kentucky, expresses the views of a distinguished medical philosopher and pioneer phrenologist of America; one who, still in green old age, presents an example of mental vigor and intellectual progress which should be emulated by the young. The following sketch of Dr. Caldwell, in the free and lively vein of Dr. Smith, of the Boston Medical and Surgical Journal, makes quite a well-drawn and high-colored portrait of the learned Professor:

“If there is a man in the medical profession of this country who stands out by himself, as a marked individual, distinguished as much for his profound attainments in science as for a general knowledge of human nature—who is a connecting link between the early philosophers of the United States and those now upon the

stage—it is Charles Caldwell, M. D., of Louisville, Kentucky. No less a giant in intellect than in his corporeal development, commanding in person, learned, dignified both by age and his position in various relations of life, it is emphatically true that he has no rival, fears no competitor, and is a living monument of the value of mental activity in promoting health and longevity. While most of us were in infancy, or unborn, he was pursuing the active rounds of every day business, and, in the full vigor of manhood, teaching the laws that govern our being. The last time we saw Dr. Caldwell was in one of the streets of Louisville, where his tall figure, solemn gait, and long bushy beard reaching down upon his breast, were well calculated to attract attention—and he had an unenviable share of staring eyes watching his stately progress over the sidewalk, moving onward with the dignity of one of the eastern magi.

“That Dr. Caldwell has some eccentricities cannot be denied; and being rich in experience, and strong in facts, the gatherings of more than three-score years, under the most favorable circumstances for study, it is not, perhaps, strange, that he looks with some degree of contempt upon the acquisitions of multitudes of modern writers, who may happen to fall below his standard of excellence, or set at naught such doctrines as he has cherished from the first dawn of his medical inquiries in Philadelphia. He is said to be the last surviving pupil of Dr. Rush. If the mantle of that extraordinary master in medicine did not fall on Dr. C., the vivid impressions made by his preceptor upon a plastic mind have had an abiding influence, which the revolutions of times and seasons seem not yet to have effaced, and while his life continues they probably never will.

“Dr. Caldwell has written much that partakes of the iron character of his opinions. His style is hard, but the arguments are logical, though he rarely gains converts to his views. One reason why he does not take rank as high authority, is probably because he is too dogmatical—too determined. A writer in this *Journal* once spoke of him as a medical despot, who never would admit that any one else was his equal. But it should be frankly stated, that for many years he has had no superior as a bold, fearless, thorough and correct medical teacher, whether in the chair of a college or through the press. Fortunately for the world, old age does not invariably destroy the aspirations of genius, nor abridge the powers of the intellect. In the case before us, a venerable man, already past the period when repose is thought to be a necessary precaution to eke out the measure of life, Dr. Caldwell is still proclaiming, in one of the great schools of Kentucky, the laws that govern organized matter, the phases of disease, the philosophy of remedies, the theory of their action; and is still, as in years gone by, enthusiastic, terse, formidable as a debater and tactician, happy as a lecturer, and is neither eclipsed, nor perhaps matched by any one occupying a similar chair in the circle of the seven and twenty medical schools of North America.”

The first part of the lecture is devoted to the *impolicy* of capital punishment, which he regards as demonstrable upon the phrenological basis. To the evidence of experience, he refers as follows:

"In Great Britain, the government has tried, within the last fifty years, the influence of every sort of punishment that a people full of resources could devise and execute, or a civilized one be induced to tolerate. In the course of these trials it has resorted to imprisonment, tread-mills, whipping, cropping, branding, transportation, and hanging. And, under each of them, the sum total of crime, in proportion to the amount of population included in the estimate, has increased. And, during a portion of the experimental period, the number of executions on the gibbet, especially in London, was truly appalling.

"But, within the last few years, the mitigation of the penal law has greatly reduced the number of such executions; and, during that interval, the amount of crime has perceptibly decreased. Yet has the population of London, within the same period, been materially augmented. And of the other large cities of the kingdom, the same is, in both respects, true. While their population has increased, crime has decreased, since the sum total of capital punishment has been lessened.

"Nor do the same results, from the same causes, appear to be less firmly established, in some of the most enlightened nations of continental Europe. There also statistical records, united to the observation of distinguished men, conjointly testify, that with the mitigation of the severity of criminal law, and its less rigorous administration, the frequency of murder, and other capital crimes, has been obviously diminished. Such is the evidence; and it is authenticated by the experience of no inconsiderable proportion of Christendom."

Dr. C. next quotes the commands of Christ: "But I say unto you, Love your enemies, bless them that curse you, do good to them that hate you, and pray for them that despitefully use you and persecute you;" Matthew v.

And again: "Therefore, all things whatsoever you would that men should do to you, do ye even so to them; for this is the law and the prophets."

These precepts he shows to be incompatible with the act of putting to death a helpless prisoner in the hands of the law, who should be, to all right-minded men, an object of compassion, not of any vindictive feeling. After discussing the scriptural arguments, he continues:

"One human being should never destroy the life of another, except as the issue of positive necessity.

"An individual, for example, is assailed by an enemy, with an intent to commit murder; and he is unable to prevent the consummation of the deed, except by destroying the purposed destroyer. The necessity of the case fully justifies him in the fatal act. But if he first arrest the malefactor, disarm and master him, and then

take away his life, he is himself a murderer. Why? Because he premeditatedly sheds the blood of a human being who is then harmless—whose life is therefore no longer a nuisance, or source of injury or danger to any person, or any interest, whether public or private.

"One person sees another about to commit murder, arson, burglary, or some other flagrant crime, which it is impossible for him to prevent, except by taking away the life of the felon. The necessity of the case again justifies the deed. Why? Because the life of the felon, which is *now a public nuisance*, is staked against that which is, both publicly and privately, useful and valuable; and one of the articles staked must be lost. The hazard, therefore, being the product of his own evil propensities, the loss ought in justice to fall on the guilty, and not on the innocent.

"But if the felon even commits the crime, and be then arrested, disarmed, and subdued by the spectator, his life must be spared. To take it away would be murder—I do not say as aggravated as the murder just committed by himself; because that was unprovoked. But it would be as actual a departure from the principles of moral rectitude, and as palpable an infringement of a moral law.

"With regard to society as a body, the same is true. It has a right to take away human life, to prevent crime; if prevention can be effected in no other way. When civil officers, for instance, are commissioned to search for and take prisoner a high and habitual offender, who has previously, by vigilance, stratagem, and otherwise, frequently eluded capture, and still persisted in his criminal practices, their orders may, justly enough, be, to make him personally forth-coming either dead or alive. In such a case, if he be again on the verge of frustrating all their efforts to capture him, they are justified in destroying him.

"But if he be captured, and in every way debarred from his criminal pursuits; and more especially if such a disposition of him can be made, as to produce in his propensities a stable reform, and render him useful in future to society and himself, to take away his life would be a criminal act. In plain terms, it would be murder, as genuine, though not perhaps so atrocious, as if it were committed by a cup of poison, or by the dagger of an assassin."

After showing that juries are reluctant to enforce the penalty of death, he continues:

"I must now, therefore, push my remarks so far as to state, what is believed and asserted, by some of the most enlightened men and best-informed observers, that, far from diminishing, it even *augments* the commission—That the more blood men of a certain organization and temperament shed, and see or even hear of being shed, the more they desire to shed. And that this is a truth, facts in abundance present themselves, if not actually to prove, at least to render *highly probable*. One very important fact founded on the belief is, that, convinced of the deleterious influence of public executions, the British Government suspended them for many years,

and substituted private ones in their place. But, through newspapers, and by other means, the executions were made publicly known; and it was found, after a fair trial, that the mere *knowledge* of them and the *sight* of them were productive of the same effect—they excited the perpetration of crimes similar to those for which the convicts had suffered. Nor is this all.

“In every page of the history of the first French Revolution, such facts are recorded in characters of blood. And so would they have been in the history of the late one, at the very commencement of it, had not Lamartine crushed the spirit that was leading to the erection of a political tribunal. Had he not, by the power of his genius, and the magic of his eloquence, held in check his sanguinary colleagues, the streets of Paris would have been converted into a slaughter-house. For every day during the ‘Reign of Terror’ in the French capital, and every massacre, whether there or elsewhere, that has been circumstantially recorded, shows that when men of a sanguinary disposition are once excited by a deed of death, their thirst for blood is roused into a passion, which nothing but the shedding of blood can appease. So perfectly is this truth known in France, and so thoroughly are the grounds of it understood, that it is openly acted on in their courts of justice.

“Hence, for many years past, in trials for capital offenses, the French juries have been authorized by law, to use a discretionary power, and, under certain regulations and restrictions, to substitute some other form of punishment for the taking away of life.”

The importance of the sympathetic influence of public punishments he illustrates as follows:

“Thus when a dog, a horse, a sheep, a kid, or any of our other domestic animals, sees one or more of its own species indulging themselves in sport, it immediately joins them in their pastime and merriment. And human beings do the same. Hence the adage that ‘laughing is catching;’ and the difficulty, not to say the *impossibility*, we often experience to maintain our gravity and decorum, though determined to do so, when those who are around us are indulging themselves in glee. Nor is weeping less contagious. Why? Because the act of weeping in one person throws into a similar condition, on the principle of congeniality and sympathy, the corresponding organ and its function in those who witness it.

“Of rage and a propensity to destroy, the same may be affirmed. They also are *contagious*; being as naturally and certainly produced by their appropriate stimulants, as is a sense of coldness by ice, or of heat and pain by molten metal.

“Does a dog see two or more of his race engaged in battle? He usually takes part in it. But whether he does or not, he manifests anger, and prepares to take part. And so, under similar excitement, do men, in whom the battle-propensity predominates. Occurrences in proof of this are perpetually witnessed, in public meetings, where excitement is high.

“When one of our male domestic animals (say the bull or the

ram) challenges another to battle, he acts on the same principle. He manifests anger—is understood and answered. This is equally true of the male of our barn-yard fowls. And on the same ground is the tiger infuriated by the sight, but more by the taste and odor of blood.

“Of the propensity to *destroy*, acts of destructiveness of any sort, whether witnessed, or only heard or read of, are the appropriate stimulants. As soon as they are applied, therefore, they arouse it to action. And they direct to the perpetration of a deed in their own likeness. Does the excitant consist in the taking away of human life on the gibbet, by the sword, the dirk or the pistol? or is it an act of suicide? No matter how life is taken away, whether publicly or privately, in persons of a suitable development and temperament, who either witness the deed, or learn it by report, it awakens to action the instinct to destroy human life. On this ground even suicide is propagated by a *sympathetic contagion*. Hence, the well known fact, that in cities, where accounts of exciting events are swift on foot, single acts of suicide seldom occur. Most frequently several of them are committed in succession, at intervals of a few days. Is burglary or arson the deed of destruction and cause of excitement? It produces its likeness; and burglary or arson follows. This statement is fact—not fiction; the result of observation—not the fruit of fancy. Hence another time worn adage: ‘*Mischief seldom travels alone.*’

“Nor, whatever exceptions to it may present themselves, is the adage altogether groundless. To this truth my own observation has long testified, in relation to three sorts of destruction—murder, suicide, and arson. And the testimony is to this effect. Those destructive deeds have, on oft-repeated occasions, occurred so numerous, and in such rapid succession, under my own eye, as to appear to be related to each other as effects arising from a common cause. So striking and impressive has this appearance been, that, speaking in the technical language of my profession, I have frequently pronounced their prevalence ‘*epidemic*’—a *general* evil, the issue of the *same general agent*.”

Society, the Doctor thinks, should undertake to reform criminals by education—not to increase their number by example. He continues:

“This subject is not new to me. I embarked in the study of it more than a quarter of a century ago, and about twenty years ago published on it this pamphlet which I hold in my hand, entitled ‘*New views of Penitentiary Discipline and Moral Education and Reform.*’ And, as far as I am apprised in relation to the matter, I was the first person that applied to it the principles of what I then regarded, and still regard, as the only true and valuable system of mental philosophy. And that system is peculiarly adapted, as a means, to minister to the improvement of the discipline and reform of penitentiary convicts.

“Within the last ten or twelve years, the subject I am now considering has been made a theme of discussion and publication, by

several writers of ability and distinction. Nor do present appearances permit me to doubt, that, at no very remote period, it will be regarded and agitated as one of the most important and absorbing topics, in the enactment and administration of criminal law.

"The nineteenth century is destined to be forever memorable and renowned on account of the discoveries and improvements made in an early part of it, in remedying some of the organic deficiencies of the human race. For it is within that period that the half-creative improvements just referred to have been effected. Within that period, for example, have the blind been taught successfully to employ their fingers instead of their eyes in the acquisition of a knowledge of letters, and the deaf and dumb been furnished with a substitute for hearing and speech. And with these half-divine arts, will be associated, in history, that of substituting, in convicts, virtuous sentiments for criminal desires, by improving the development and balance of their brains.

"There exists in Paris an institution founded on the principles that must be adopted in all penitentiary institutions, and is one of the most interesting I have ever witnessed. Its object is, to improve, in every respect, idiots of every description and caste. And to the philanthropist and anthropologist, in common with the physiologist, the result of the experiment is in a high degree gratifying, as well as surprising. By the system of instruction and training, to which they are subjected, the pupils are in time so altered and improved in person and deportment, no less than in mind, that you are almost compelled to forget that they are idiots. Your first view of them operates forcibly to that effect. They carry themselves more after the manner of partially drilled soldiers than of idiots. They march to time in tolerable style; and they fence, dance, and make music with unlooked for efficiency. They also read, write, cipher and converse with a degree of readiness and propriety quite sufficient for their limited wants, and some of them learn trades which afford them a subsistence.

"Of this institution Dr. Voisin, one of the most accomplished phrenologists of the age, is the superintendent. I need hardly add, therefore, that he governs it and treats his pupils on phrenological principles. Nor could he, on any others, improve his idiot classes as he does, in the attainments I have specified, and contribute so essentially to their comfort and usefulness. And on no other principles can convicts be relieved from their mental malady, and treated rationally and beneficially as subjects of instruction and moral reform.

"That penitentiaries, then, may be competent schools of instruction and reform, their executive officers ought to be widely different from those to whose immediate agency the administration of their police is usually intrusted. They should be men of enlightened and well-balanced minds, else will they never judiciously and advantageously either deport themselves or govern the prisoners. They must, therefore, possess benevolence of disposition and practi-

cal kindness, governed in the exercise of them by justice and firmness, with which should be associated mildness of manner, accompanied by intrepidity and self-control. To these add vigilance, assiduity and good faith, a sufficiency of the social to temper the sternness by the moral virtues, and a dignified bearing, and their qualifications fit them for their task. They can then guide by their advice, and govern by their authority. And in the station they hold, both aptitudes are highly important, and when judiciously employed, may be rendered subservient to the happiest results.

"There are many men, in whose presence the disorderly and dissolute become instinctively respectful and decorous in behavior. I need hardly remark, that Washington was, *par excellence*, a man of that description. Before such a monument of moral grandeur, no less *without* than *within*, the wretch did not live, who, in his sober senses, would have had the effrontery to be profane, disrespectful, or indecorous. With regard to the late Mr. Roscoe, of Liverpool, who in person resembled Washington, the same was true. Nor was it less so with respect to the late Bishop White, of Philadelphia, and the Rev. Dr. Hall, of North Carolina. No man, except under insanity from intoxication, or some other cause, could have had the hardihood to be dissolute, indecent or disrespectful in the presence of those morally august personages. And what Washington, Roscoe, White and Hall, were in perfection, every man is in part, in proportion to the moral dignity he manifests.

"That no aid or incentive to reform may be wanting, one at least of the instructors of the prisoners, in every penitentiary institution, ought to be a clergyman. And he should be pious, able, and eloquent, in order that in his sermons, exhortations, and general intercourse with the prisoners, he may both encourage and alarm them, by skillfully mingling and forcibly impressing on them the hopes and apprehensions of the award that awaits them, as well in the present, as in a future state. For, as the work to be performed is both momentous and difficult, no man should be allowed to mar it by ordinary qualifications.

"In each penitentiary the number of instructors ought to be judiciously apportioned to the number to be instructed. And as every prisoner should be admitted to the privilege of pupilage, the ratio of teachers ought to be, at the lowest, one to every *twenty*, or, at furthest, every *thirty*, of those under conviction, and destined to be taught.

"Nor is the entire system of officers yet complete. Each penitentiary institution should have a COURT OF EXAMINATION AND DISMISSION, composed of men faithful to their duty, and competent to the performance of it. And their duty should be, to hold sessions at stated periods, to examine into and judge of the moral amendment and general conduct and condition of such convicts as may be reported to them, for examination, by the resident and governing officers of the establishment, and to give discharges from imprisonment, as they may think them deserved.



"All evidence respecting the moral improvement and good conduct of the prisoners should be given on oath; and no prisoner should be discharged, except by the *unanimous* vote of all the members of the Court present at his examination. Nor should any one be discharged, whatever may be his age, or however comparatively trivial his crime, in less than *twelve months* from the time of his conviction. And, by the Court of examination, the period of confinement and reform may be indefinitely extended.

"Such is the outline of a system of penitentiary discipline and moral reform, which I venture to propose."

Doctor C. next shows the practicability of cultivating the different organs of the brain, and commends, eloquently, a study of the great Book of Nature—the "elder revelation"—and, with an appropriate allusion to his advanced years, expresses his anticipations as follows:

"That capital punishment is destined to be abolished from the policy of our country, I do not entertain the shadow of a doubt. And it would cordially gratify me to be able to anticipate that some of you, whom I have this day had the honor to address on that subject, may take a lead in the legislature, that shall effect in the penal code of our Commonwealth the salutary change.

"Be this anticipation, however, realized or not, I cannot but avail myself of the present moment, most cordially to congratulate you, *as sons of the West*, on the important boon of the *first legislative Act of the Abolition of Capital Punishment* being the issue of a DAUGHTER of the West. The Legislature of Michigan, one of the youngest of our sister States, immortalized itself, at its late session, by the enactment of a law to that effect.

"Nor do I deem it more than *possible*, that the Legislature of Kentucky, the eldest and most experienced of the Western sisterhood of States, will be dilatory in following an example at once so fraught with humanity, benevolence and wisdom."

The experiment, thus far, appears to be satisfactory in Michigan. At any rate, the Legislature of that State refused, during last winter's session, to repeal the law abolishing capital punishment. If the law should produce any important evil results there, its opponents will doubtless succeed in procuring a repeal. The continued existence of the law may be regarded as a continual triumph of the principle of mercy.

In all such legislative innovations and experiments, the new States of the West are the most hopeful field for the philanthropist. The time must come, when the mighty West, with its bold and liberal population, shall exhibit the power of new thoughts and high aspirations (too daring for the old world) reduced to practice in the new.

## ART. IV.—ANIMAL MAGNETISM.—(CONTINUED.)

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ACCORDING to Deleuze, the processes of Animal Magnetism require the co-operation of the will, confidence and benevolent sympathy. We have already seen that these things are not indispensable, although they greatly favor the production of striking effects. The error of Deleuze arose from his supposition, that the effects were produced entirely by the power of the mind of the operator. If this were true, the necessity of will, confidence and sympathy, would be an obvious conclusion; but, as we have seen the magnetic phenomena arise from the general law of sympathy and reaction between the parties, the exercise of the will, of confidence and of sympathy, must be regarded merely as co-operative, not as essential. A kindly sympathy between the parties is desirable; because, in the sympathetic state, the constitution is more impressible to all physical and mental influences. It is necessary to tranquilize the muscular system, to remove the evil passions, and to bring into exercise the most pleasing sentiments, in order to place the constitution in the most susceptible condition.

Confidence, on the part of the patient, is desirable, merely because it produces a more amiable and submissive state, and renders him more willing to submit passively to the process. Confidence, on the part of the operator, is desirable, because it will enable him to act with more boldness and precision than he could, were his mind in a hesitating condition. Confidence is desirable, for the same reason that good health, good spirits and physical strength are desirable in the operator: they render his constitution more capable of impressing another, and of producing a beneficial influence.

The good intentions, of which Deleuze so often speaks, are far from being so necessary as he considers them. The following is his language (p. 13): "The action of the magnetic fluid, being relative to the direction given by the will, is always salutary only so far as it is accompanied with a *good intention*." This proposition is not scientifically true. The operator may go through the appropriate process, producing the appropriate effects, even if he is totally unacquainted with their nature, and unconcerned as to the results.

He who manipulates an inflamed surface, or an aching limb, for the purpose of dissipating its morbid conditions, will succeed just as well, if he has never heard of animal magnetism, and has no suspicion of the object for which he is operating. A knowledge of the nature of the operation, and a desire to benefit, become necessary only in those operations which are purely mental. When the magnetizer has brought his subject entirely under his control, and established such a mental sympathy that he can produce striking re-

sults, merely by the exertion of his will, then it is important that his will should be rightly directed. But, in a large number of the operations which come under the denomination of "animal magnetism," this mental sympathy does not occur. There are many persons who cannot be exalted to this state of high susceptibility, yet who may be materially benefited by the "magnetic passes." It is absurd to speak of the operation, in such cases, as depending on the power of the will, when that power is really incapable of producing any such distinct effect.

It is, indeed, a pleasing and splendid triumph of science, to place a human being in so calm and spiritual a state, and so effectually reduce matter beneath the control of mind, that, by the mere unuttered will, we may communicate with his mind; and, through his mind, produce powerful effects upon his body—thus rendering mental power predominant over physical disease. But we must not suppose, because these things are practicable, they constitute the general rule. We must not suppose, in the world, as it is now constituted, with the evil passions often in such incessant and predominant activity, that the body can be generally made to yield to the mind, as a passive instrument; or, that mind can communicate with mind, without the usual physical agencies.

It would be absurd to deduce from these transcendent phenomena, sympathetic laws applicable only to peculiar constitutions, and to suppose these laws generally applicable to the human race. The time may come, when the higher forms of mental sympathy shall be the universal, and not the exceptional rule—when the power of mind over matter shall be dominant throughout the world—and when the highest magnetic phenomena shall be familiar occurrences. But, in the present social condition of the world, this is impossible; and the universal law, as proclaimed by Deleuze, is but limited in its application. Errors so great and palpable as this, arise from the unscientific method in which the subject of Animal Magnetism has been cultivated by its most ardent votaries.

The nature of the power which one individual exercises over another, and which all persons possess, is not explained by Deleuze. He ascribes the exertion to energy of will—to concentrated attention—benevolence—strength of mind—patience and disinterestedness: to which qualities he adds good health, and a certain power (which he does not understand), which can only be determined by its trial. The qualifications of which he speaks are serviceable, and the more so in proportion as the sympathy of the operator and subject is increased. Health is desirable, if you wish to benefit the subject; but is not necessary to the production of striking results. The magnetic power of any given constitution corresponds to the sum total of physical and mental energy the individual possesses. Every vital power of his constitution contributes to the sum total of the effects which it may produce upon others. A Napoleon, a Whitfield, or a Peter the Hermit, would have been a powerful operator. The influence which every great man exerts over his cotemporaries, and that

by which every orator moves assembled multitudes, is, in many respects, the same which is concerned in the ordinary processes of magnetism. If any particular faculty in the operator is predominant, he can play on the corresponding faculty of his subjects with corresponding success. The intellectual man can produce more extraordinary intellectual phenomena; the man of great physical powers can operate more successfully upon the muscular system; the man of vigorous health can more successfully invigorate the constitution, and relieve the diseases of his patients.

There is, then, nothing mysterious in what is called "The Magnetic Power," as this power is nothing but a mode of exhibiting the vital force. But, it may be remarked, that certain constitutions generate a much greater amount of blood and nervous energy than others; and such constitutions are capable of imparting, more forcibly, their own organic influence. In these individuals, the head is generally well developed along the median line. The lower part of the face and chin are prominent, and the occiput not deficient in depth. The respiration and circulation are active—temperature high—and the nervous energy superabundant. In contact with an impressible person they impart, immediately, a glowing excitement and life, since they operate much more promptly and powerfully than those of a colder temperament, from whom the nervous energy proceeds more slowly. They not only operate more efficiently, but are much less exhausted by their operations, and less liable to receive injurious influences from their patients. The qualifications, then, for a magnetic operator, are general constitutional vigor and an ardent temperament, which is indicated by the prominence of the chin and lower part of the face.

Thus far, I have retained the terms "Animal Magnetism," "magnetic passes," &c., from deference to the usage of the early cultivators of this branch of knowledge. These terms had their origin in the fact, that certain phenomena of attraction are displayed in the operations of one individual upon another. The hand of the operator exerts a sensibly attractive influence upon the subject, which may be compared to the attraction of mineral magnetism. But all parts of the brain and body emit their peculiar influences—and these are not all attractive. While the nervaura of the hand exerts "magnetic," or attractive properties, that of many other portions of the body is entirely destitute of attraction.

Hence it would be wrong to use the term "Animal Magnetism," in reference to all the nervauras of the human body, when it belongs especially to that of the hand. I therefore prefer the term *Nervaura* to *Animal Magnetism*, as a more comprehensive term, including all the nervous influences, either within, or emanating from, the human constitution. I propose, then, without entirely discarding the term *Animal Magnetism*, to introduce the more comprehensive term *NERVAURA*; and to designate as *Nervauric* experiments, those in which the radiated nervous influences of the brain and body are employed by one individual to affect others.

## ART. V.—CHOLERA—ITS TREATMENT.

THE importance and immense fatality of this disease—the suddenness of its attacks, and the certainty that they may be controlled by a proper method of treatment—render it proper to notice the subject more fully than has yet been done in these pages. The disease is, at present, on the increase in the South-west, and bids fair to traverse the Western country the present season. If it should come among us in a malignant form, every man, woman and child, should be prepared to recognize and to repel its approaches. It will not do to rest in ignorance of medical science, and leave all such matters to physicians. Those who have pursued this course have, in thousands of instances, allowed the disease to fasten upon them so firmly as to insure a fatal result.

In the collapsed stage, few recover; in the preliminary stages, few or none would die if properly treated. The greatest mortality in the United States, during the present epidemic, has been among those who have not been sufficiently vigilant or intelligent to meet properly the first inroads of the disease. In New Orleans it was principally among the poor, ignorant and dissipated, that the mortality occurred. In England the mortality has been more than one-half of all the cases attacked; and in Russia, from October, 1846, to July, 1848, out of 290,318 persons attacked, 116,658 died.

Such results it is difficult to account for, unless we suppose, either that the physicians still adhere to the unsuccessful methods of treatment which have so often failed, or, that the patients are deficient in stamina of constitution, and backward as to calling in medical assistance.

The following account by Dr. G. S. Hawthorne, of his method of treating the disease, shows how easily it is controlled, if proper and energetic measures are adopted. It will be observed, that Dr. H. claims great credit to himself, as author of the plan of curing by perspiration. He says: "But the grand distinguishing feature, in which it stands alone, is the employment of the powerful agency of perspiration as a means of cure. This agent has never been recommended, as such, by any other; it is, in fact, by perspiration that the disease is cured." Dr. Hawthorne, I presume, was not aware that the same principle had been acted upon in America, and is now the established method of practice among a considerable portion of the Profession.

Dr. Beach, who was appointed physician of the tenth ward of New York, during the prevalence of cholera in 1832, treated, with the assistance of several other physicians, about a thousand cases of cholera, with a remarkably small number of deaths. In his dissertation upon the disease, published in his *American Practice of Medicine*, Vol. 2, he lays down the principle upon which he acted,

in these words: "In a word, the leading indication in the cure of cholera, either in the confirmed or collapsed stage, is to *establish reaction*, or, in other words, to *promote perspiration*." The principles upon which he treated the disease, in 1832, have since been extensively tested, and their value verified, by different practitioners in different portions of the United States; and, as they present some valuable features not included in Dr. Hawthorne's plan, I would briefly state the plan which he pursued so successfully, with the assistance of his medical associates, which was the administration, in the first instance, of what was commonly called the neutralizing mixture (equal parts of rhubarb, peppermint, and salæراتus). Half an ounce of this was added to a pint of boiling water, two table-spoonsful of brandy and a portion of loaf sugar added, and a table-spoonful taken every hour, until it gently acted as a laxative. Cinnamon or cloves was sometimes added, and ptisans, such as catnip and spearmint, were drunk at intervals. Hot tincture of capsicum was applied with a flannel over the bowels, and at night ten grains of the diaphoretic powders (camphor 32, ipecac 31, opium 3½, sup. carb. soda 31) were frequently given. This was found sufficient to remove the premonitory symptoms.

In marked cases, needing more efficient treatment, the feet were immersed in hot ley, heat applied around the person, and two table-spoonsful of the sudorific drops (opium, camphor, serpentaria, ipecac, and saffron—an ounce of each to three pints of Holland gin or spirits) administered every hour in a tumbler of strong peppermint tea, until reaction and perspiration are produced. Friction and hot tincture of capsicum were applied to the surface.

In more urgent cases, the antispasmodic mixture was used (tincture of camphor 34, ess. peppermint 34, syrup of ginger 3½, tincture of capsicum 31) of which a table-spoonful was taken from one to four times an hour, according to the urgency of the case, with draughts of Indian meal gruel, containing a little salæراتus. Hot fomentations of hops were applied to the bowels, and laudanum used in injections. The black drop (twenty drops) was sometimes resorted to, as an antispasmodic.

In this plan of treatment, there is one important feature, in the liberal use of peppermint, a medicine of much value in such cases, which is omitted by Dr. Hawthorne. The admirable preparation of rhubarb, peppermint and salæراتus, is a valuable remedy in nearly *all diseases of the bowels*, which *should be kept on hand by every family*, being perfectly safe and innocent as a domestic remedy. To my medical readers, I cannot too strongly recommend this as a standing prescription. It is prepared by our apothecaries here, under the title of neutralizing cordial. It may be conveniently prepared in the family, by mixing equal parts of rhubarb, peppermint and salæراتus, and adding about two ounces of the mixture to a pint of brandy and water (half and half). A teaspoonful of the fluid will do for a dose, which may be repeated several times a day.

As the external application of heat and stimulants is, perhaps, the

most important object in the stage of collapse, we should have a variety of methods at our command. A physician, who met with distinguished success in New Orleans, in the treatment of cholera, in accordance with the principles which I have advocated, says, in a letter received a few days since: "Let me urge the use of external warmth and moisture, especially, in the advanced stages, in addition to your internal medicine. The most convenient plan I have found, is by the blankets. For this three are required. Let one be immersed in water, as hot as can be handled—wring it out and wrap the patient in it (being divested of clothing) and immediately cover with the dry. In five or ten minutes proceed with the second in the same way, and so continue, changing them as often as they become cooled, till the pulse and temperature are sufficiently raised; then rub dry and cover with dry blankets."

The Russian vapor bath, which proved extremely beneficial in the collapsed stage of cholera, is another form of the external application of heat and moisture; but I doubt whether it could equal the effect of the blankets.

Of external stimulants, capsicum is probably the best; but as the tincture is liable to cool the surface in evaporating, and is not sufficiently concentrated, it would be preferable to use the dry capsicum, in powder, rubbing it vigorously over the surface with a pair of gloves or piece of cloth. But as the dry powder may produce some little inconvenience to the nose and eyes by its dust, the plan of Dr. Turnbull might be more convenient. Dr. T. says:

"I employ an extract made of capsicum, with alcohol, reduced to the consistency of jelly. Three drachms of the extract to be well mixed with six drachms of purified lard; the patient to be well rubbed over the abdomen, heart, and calves of the legs, several times a day; and at all times, if there be any coldness over the surface of the body, or when a spasm takes place in the abdomen or calves of the legs. The rubbing ought to be continued until such time as the patient expresses that the heat is intolerable. Another form of the employment of capsicum is the following embrocation: Concentrated tincture of capsicum—viz., capsicum pods, four ounces; rectified spirit, twelve ounces; macerate for a week, and strain. To increase its energy upon the nervous system, when required, I add two or four grains of delphinia, or veratria, to the tincture. Another method of obtaining the advantages of capsicum, speedily, and without much expense—and which may be considered a household recipe for cholera, until medical assistance can be obtained—is to boil four ounces of capsicum in a pint of olive oil, for six hours, and strain. To free the capsicum from the chloride of sodium, with which it is generally united, it is necessary to add water, and strain, previously to mixing it with the oil, otherwise it will produce vesication."

In the following extracts from the letters of Dr. Hawthorne, a very successful plan of treatment is sketched. It is rather too heroic for domestic practice, and his doses of opium appear too large.

M

By substituting a portion of peppermint for opium, and using the external means above mentioned, the treatment would, perhaps, be improved. Of the success of Dr. H., the following statements are a sufficient evidence:

"It is *certain* that the author has had, at least, as extensive experience in the treatment of cholera as any other physician in Great Britain. That his success in the treatment of 'it has been extraordinary, is placed beyond dispute by the highest and most conclusive testimony. Boards of health, physicians of good reputation, private individuals and public meetings, all unite in testifying to his unexampled success. The Dungannon Board of Health, in presenting to him a piece of plate, take occasion 'to convey to him their most grateful acknowledgments for the eminent services he has, under Providence, rendered in checking that destructive disease, which had raged with such violence amongst them.' The late Dr. Dawson, of Dungannon, a highly respectable and able practitioner, who changed his original mode of treating the disease, after his 'false ideas' of it, in consequence of 'the most important information' he had received from Dr. Hawthorne, had been corrected, says, in a letter to Dr. H., written in 1844: 'Would to God, my dear sir, your mode of practice in cholera was more generally known, as then it would not be so fatal a scourge as it unfortunately now is.' The late Sir Francis Workman Macnaghten, in forwarding to Dr. Hawthorne an address on behalf of the inhabitants of the parishes of Billy and Dunluce, says: 'I can add, from my own knowledge, that no individual, who, at the commencement of his disease, had the fortune to fall under your care, was lost to his family—that, shortly after your arrival, mortality ceased—that implicit reliance upon you was manifested by all—and that despair was relieved by the most cheering expectations.' In the address, the signers, among whom were physicians, members of the Board of Health, parish officers, and private citizens of the highest respectability, say, 'that not a single death took place in any of those cases which occurred subsequently to his (Dr. H.'s) arrival.' 'Three of the signers, physicians and surgeons and members of the Board of Health, add: 'We, the undersigned, feel it our duty to express our most unqualified conviction, that your plan of treatment is the best and the only safe one; and that if sufficiently early and efficiently put in practice, even in the most violent forms of the disease, and universally adopted, it is calculated to save many a useful life, and render a most formidable disease comparatively mild, and less fatal than most other epidemics.'"

#### EXTRACTS FROM DR. G. S. HAWTHORNE'S LETTERS ON CHOLERA.

"These remedies I would briefly state to be—*The Horizontal posture of the Body—Opium—Cordial Stimulants—Perspiration*,—the latter to be produced by the application of external heat, and to be continued by the same means, while mild, warm, diluting drink is to be freely administered, to furnish an abundant supply of suit-



able fluid to the absorbent vessels, which have been first excited to vigorous action by the perspiration.

"Upon these several remedies, as means of cure, I shall make some general remarks, describing their mode of action, and their fitness for the exigencies of the disease, and showing how they fully and efficiently meet all the requirements of cure. This I shall do before prescribing, in detail, the manner in which they are to be used in the treatment of the disease.

"Such a course will, I conceive, be attended with advantages. When I come to direct the proper mode of treatment, the reader, who shall have brought my observations along with him, will be prepared, not only to see the adaptation of the means of cure I shall prescribe, but will almost be able to anticipate me in this matter. I thus hope to carry his understanding and conviction along with me. I shall take up the remedies severally. First:

"*The Horizontal Posture of the Body.*—All who have read, attentively, the observations in my second letter on the symptoms, and the reason and cause of the symptoms in cholera, will at once perceive the necessity for immediately placing a patient affected with the disease, or even with its premonitory symptoms, in the horizontal posture. I explained that the primary loss of the tone and energy of the brain in that disease, immediately leads to a loss of power in the circulating vessels—that this diminution of the circulating power leads to a further loss of the tone and energy of the brain, and, consequently, to the increased paralyzation of the resisting power of the vessels to which the fluids in the progress of the disease determine, and through which they make their escape.

"The advantage of the horizontal posture is, that it aids the weak circulating power, and favors the more forcible influx of the blood into the brain, affording to that organ more efficient bracing and support, and thus contributing to the restoration of its tone and energy. That such is the effect of placing the body in the horizontal posture, when the circulating power is weak, is every day exemplified in the relief afforded by this means to persons fainting from weakness by loss of blood, or other causes. When the individual who has fainted is placed in the horizontal posture, so as to favor the influx of the blood into the head, the brain immediately regains its tone and energy, and resumes its healthy functions.

"Further, the horizontal posture aids in arresting the escape of the serous fluids into the stomach and bowels. By improving the tone of the brain, it increases the resisting power of the vessels through which the serous fluid escapes, and it relieves the discharging vessels from the great superincumbent pressure they would have to sustain in the erect posture.

"The effect of posture in increasing or diminishing the pressure on the circulating vessels, is familiarly exemplified in the swelling of the lower extremities from long standing, and in the remedial effect of elevating those extremities, either to a level with, or slightly above the level of the body.

"Thus much will suffice to illustrate the advantage of confining the patient to the horizontal posture in this disease.

"*Opium* is the next remedial agent which claims our notice ; and amongst the few remedies which are really necessary in the treatment of cholera, this one holds a most important place. Taken internally, opium increases the energy of the brain ; contracts, in a remarkable degree, the diameter of the circulating vessels, which include, let it be observed, the excretory ducts through which the serum in this disease escapes, and diminishes all the secretions and excretions, except the cuticular discharge which it increases ; in all these several respects being most precisely adapted to the requirements of cure in this disease—in all these respects being severally fitted for restoring the tone and energy of the brain, for resisting the determination of the fluids to the internal surfaces, and for counteracting the effects of the vascular depletion, which is sometimes so excessive ; and these are precisely the objects upon the accomplishment of which the cure chiefly depends. And these objects, opium, in conjunction with the other remedies I prescribe, more especially perspiration, will effectually accomplish.

"I wish it, however, to be particularly understood, that the success of this remedy depends upon its being administered in sufficient quantity ; and the amount of the dose required in each particular case depends entirely upon the malignancy of the symptoms, &c. ; that is, upon the extent of the nervous prostration, the rapidity with which the serous fluid seems to escape, and the extent to which the vascular depletion may have gone. To this fact I would again solicit the most pointed attention, as it was from inattention to these truths that the fatal results of the general, and, I may say, universal, practice in that disease arose.

"I have elsewhere stated that the effect produced on the brain and nervous system in cholera, by the escape of the serous fluid from the body, is precisely similar to that which is caused by the loss of blood. Now, in case of persons sinking from loss of blood, opium, as is well known to the profession, is one of the most valuable medicines we possess for restoring and supporting the *vis vitæ*. In uterine hæmorrhages, for instance, no person, unless he had actually witnessed it, could have any idea of the quantity of opium a patient not only can bear, but requires, when the loss of blood has been extensive. But not only in vascular depletions, but also in certain affections of the nervous system, are large doses of opium not only safe, but necessary. In tetanus (lock-jaw), for instance, enormous doses of that medicine may be taken with safety and advantage. A case is recorded, in which a patient, affected with this disease, took two fluid ounces of the tincture of opium without experiencing any narcotic effects from it, and was cured by the dose. I prescribe, therefore, large doses of opium in cholera, not merely from the excessive vascular depletion that accompanies the disease, but also from the great nervous depression which is always present.

"I would again repeat, that the amount of the dose necessary will

depend entirely upon the malignancy of the symptoms. For illustration (to confine ourselves to the vascular depletion), it must be evident that the specific effect of opium, which, in part, is to contract the diameter of the vessels of the body, and lessen their containing capacity, and thereby to afford a fuller and more forcible supply of blood to the head, and which would be injurious in a plethoric state of the vascular system, would be proportionably salutary in a depleted state of that system. It is equally evident, that the greater the depletion be, the larger will be the dose of the medicine required to produce a given effect. Two grains of opium would produce a greater effect on the nervous system, in the ordinary state of the vessels, than even ten grains where the vascular depletion has been such as to endanger life.

“Had the profession borne these facts in mind, and noted the nature of the morbid action in cholera, they must have at once availed themselves of the agency of large doses of opium, in the treatment of the disease. The overlooking of these facts, however, led to the fatal error of trifling with too small doses of that medicine; and when these inefficient doses failed, or were, perchance, entirely counteracted by being combined with other supposed remedies, as calomel, for instance, it was taken for granted that the disease was incurable. It has been the general practice, even in the worst forms of the disease, to administer the opium in one or two grain doses, repeated at longer or shorter intervals. The consequence of this has been, that, in all such malignant cases, the discharges of the serous fluid from the bowels has continued completely unchecked, and the lives of the patients have been lost. Now, in these cases, there might just as well have been given none of this medicine at all; for, if a dose, sufficient to meet the exigency of the case, be not given at once, it will produce no effect whatever, and no repetition of similar doses will answer the purpose. And, I unhesitatingly assert, that two grains of opium never cured a malignant case of cholera. I have frequently had occasion to give ten grains for a first dose.

“In regulating the dose of opium to be given in a malignant case of cholera, three objects are to be kept in view: first, to apportion as much as will be sufficient to counteract the depleted or emptied state of the vessels, then to add what will be necessary to restore the brain and nerves to their natural state, and, lastly, when the dose has been adjusted to meet these contingencies, the practitioner must still further add a third portion to the dose, such as would stop a case of purging under ordinary circumstances.

“It need not excite surprise that the disease has been so universally fatal, when, in all parts of the world, this important practical fact has been entirely overlooked. Any cases of cholera alleged to have been cured by the ordinary methods recommended in publications on this subject (and I have read all of note that have appeared) have been so mild as scarcely to deserve the name of cholera. Cases do sometimes occur, where, from peculiarity of constitution,

the patient will recover without any medicine whatever, or in spite of the remedies, where such have been used. Almost all the recoveries from collapse I ever witnessed, were of persons who refused to take any medicine whatever, and who recovered through the *vis medicatrix naturæ* (healing power of nature). But these were persons of very peculiar habits of body, of whom I would now be able to predicate such a result.

"The next remedial agents in the order of our arrangement are, *"Cordial Stimulants.*—Upon their mode of operation I shall here observe very briefly. I shall enter more into detail afterward, in prescribing how they are to be used. Amongst the most useful of the stimulants we possess, are camphor, chloric ether, aromatic spirit of ammonia, and alcohol in the form of whisky or brandy. Such stimulants assist the opium in restoring and supporting the tone and energy of the nervous system. By their cordial effects, they strengthen the stomach, and enable it to absorb the opium; and by their stimulating effect on the brain, they sustain it until the opium becomes absorbed, and exerts its more permanent remedial effect on the system.

"I now come to speak of perspiration, produced by the application of external heat; and upon this powerful agent in the cure of cholera I must dwell more fully.

"*Perspiration.*—All the early symptoms in cholera indicate an increased determination of the fluids from the external to the internal surfaces. Perspiration reverses this determination, and directs it to the external surface. By so doing, it relieves the stomach, intestines, and other internal organs, from the symptoms caused by the injurious rush of the fluids contributes, materially, to the stopping of the discharges; and is an efficient remedy for stopping the vomiting, in a malignant case of the disease. Though in such cases, the discharges from the bowels may, for a time, be checked by large doses of opium, yet, if the morbid action be not corrected by changing the determination of the fluids from the internal surfaces to the external, by a profuse perspiration, they will assuredly return. When the perspiration has been made to flow freely for a few minutes, the vomiting and sickness at the stomach invariably cease. Let the sweating be suddenly checked, however, or stopped too soon, and not only will these symptoms almost instantly recur, but if the discharge from the surface be not immediately reproduced, even the purging itself will be sure to return. All medical men are aware of the remarkable sympathy that subsists between the external and internal surfaces of the body. Witness the alternation of sweats and diarrhœa that occur in the last stage of pulmonary consumption. When the latter symptom is checked, the perspirations become excessive; when these again are stopped, the colliquative discharges from the bowels return with violence. Much less opium is required to stop the purging in cases where, by the early application of external heat, profuse perspiration is produced, than where it is neglected. Indeed, where the sweating is promptly attended to, a second dose of that medicine is seldom, if ever, necessary."

"Of the medicinal remedies, the chief, it will have been observed, is opium. This I have explained, should be given in combination with medicines of a cordial, stimulating, and antispasmodic character, of which the most efficient are camphor, capsicum, ether, and aromatic spirit of ammonia. The following formulæ present the combinations of these medicines which I would prescribe:

"Powdered Opium, twelve grains.

"Camphor, half a drachm.

"Capsicum, nine grains.

"Spirits of Wine and Conserve of Roses, of each a sufficient quantity—mix.

"To be made into a mass, and divided into twelve pills.

"Each of these pills, it will be observed, contains one grain of powdered opium.

"Chloric Ether.

"Aromatic Spirit of Ammonia.

"Camphorated Spirits.

"Tincture of Opium—of each one drachm.

"Cinnamon Water, two ounces—mix.

"As I shall have occasion frequently to refer to these pills and this mixture, I shall term them, for convenience and accuracy of reference, Antispasmodic Pills and Antispasmodic Mixture.

"Cholera, I have stated, presents itself in four distinct degrees of malignity. I shall first take up the most malignant form, as being in itself the most important, and as embodying most fully, in its details of treatment, the great principles of cure which are alike applicable to all forms of the disease. All the modifications of the disease require to be treated on the same principles—the only difference being that, in the detail, the milder forms require less powerful doses of the medicines. The mode of treating the most malignant form of the disease, will serve as the model on which all the others are to be treated. This most malignant form has, by all writers on the subject, hitherto, been pronounced incurable. They say it never was cured in a single instance, and never can be cured by the power of medicine. I shall, however, point out a mode of treating it which will prove itself infallibly successful, where my directions are followed with sufficient promptness, boldness, and skill. I would recapitulate, that the symptoms in this case are great languor and depression of spirits; giddiness of the head; soft, small, and variable pulse; tongue cold, flowing with saliva, relaxed, broad, and tremulous; heat of skin below the natural temperature; no cramps or pains, but an indescribable feeling of anxiety and crushing about the heart, accompanied with watery purging and vomiting, or with watery purging alone. All these symptoms indicate the utmost degree of malignity, and not one moment is to be lost in the vigorous application of the most powerful remedies. The disease in this form runs its course so rapidly, that, before the medical attendant arrives, it may have so far progressed that one additional discharge from the bowels may carry the patient into hopeless collapse. The practice,

therefore, must be prompt; it must be bold as it is prompt. The discharges from the bowels must be stopped at once; and for this purpose, an efficient dose of medicine must at once be administered. Trifle with an inefficient first dose, and the patient is lost; administered with the boldness I shall prescribe, success is as certain as is the relation between cause and effect.

“Place the patient immediately in the horizontal posture, in bed; and give him, on the instant, as this is an extreme case, ten of the antispasmodic pills, and two ounces of the above antispasmodic mixture, and wash the whole down with a glass of undiluted brandy or whisky, flavored strongly with cloves, essence of ginger, or some such warm aromatic spice. In the meantime have him covered with an additional blanket, and let the usual means of communicating heat, such as jars or bottles of hot water, bags of hot salt or sand, hot bricks, or whatever can be most readily procured, be applied without delay to the feet and different parts of the body, so as to restore the temperature, and produce perspiration as quickly as possible. As soon as the perspiration has begun to flow freely, superadded to the medicine and cordials already administered, a glass of brandy punch should be given—the punch to be made strong, and to be swallowed hot as possible. After this, no drink should be given until the perspiration has flowed freely for a few minutes. The stomach will then retain it, and the patient should be indulged freely with copious draughts of rennet whey, warm toast water, flavored with some agreeable spice, mint or balm tea, or any such mild beverage. The necessity of attending to this is most important. When the discharges from the bowels cease, and when the pulse becomes full and bounding—the body is covered with a copious warm perspiration, which will not fail to be the case under such treatment—the danger is over. The perspiration, if the patient can bear it, should be kept up for twelve hours; and may with advantage be continued, moderately, even longer. Its duration, however, must be regulated according to the strength of the patient and the state of the pulse. After the first four or six hours, more heat need not be applied than is perfectly agreeable to the feelings of the patient. It is remarkable how suddenly the præcordial oppression, &c., are relieved on the breaking out of a free perspiration; and what is of greater importance still, the vomiting, where it exists, immediately ceases. I know of no other means by which vomiting in such cases can be speedily and effectually checked. In the application of external heat, a rational use should be made of the means. I cannot see the necessity for increasing the temperature beyond what is grateful to the feelings of the patient, and beyond what is sufficient to produce and keep up a profuse perspiration. I would remark, that the heat can be much more efficiently communicated by solid substances, such as I have mentioned above, than by the hot-air or vapor apparatus. This apparatus, as a means of communicating heat to a patient affected with cholera, is an instrument which I consider to be worse than useless.

"Now, let it be observed, that I have selected an extreme case, and have prescribed a dose of medicine sufficient to meet such a case. As I have already stated, not one case need be lost if the practice be sufficiently prompt and bold. I have supposed a case of the most malignant character, where there has been profuse watery purging, and where another discharge from the bowels would endanger the patient's life; and, under these circumstances I have prescribed ten of the pills containing ten grains of powdered opium, as a less dose would not meet the exigencies of the case. To administer this dose, under the circumstances I have stated, is perfectly safe; to administer an inefficient dose is certain death. I have, under the circumstances supposed, tried smaller doses, but found them insufficient to arrest the progress of the symptoms, and was obliged, in a few minutes, to increase them. After such experience I always prescribed ten of the pills for a dose, under the alarming and dangerous circumstances I have supposed, and always with never-failing success; and I have never seen the slightest narcotic effect produced by this large dose of medicine, on any of the patients to whom it has been administered under such circumstances. The reason why such a large dose of opium may be safely administered in such a case, and the reason why, under such circumstances, it is absolutely necessary, I have fully explained in the preceding letter.

"Should there, however, have been little or no purging, a smaller dose of the pills must be given. The system not having suffered much depletion from the escape of the serous part of the blood, so very large a dose of opium is not necessary. In such cases, eight of the pills will generally be sufficient; to be accompanied, however, with the same quantity of the antispasmodic mixture, and the same cordial stimulants as already prescribed, and to be followed with equal promptness by exciting the perspiration, that grand agent in the cure of every modification of cholera, without which a malignant case of the disease could not, by possibility, be cured. In the next most malignant form of the disease, the third described in my last letter, if there has been extensive purging, the patient must take, instantly, eight of the pills, together with the same dose of the antispasmodic mixture, as prescribed in the last case, and the same amount of cordial stimulants; and have these followed up, vigorously and speedily, with all the other steps of treatment already described, the perspiration above all things, not being delayed, and all the alarming symptoms will be found to flow off with the perspiration. In cases under this form of the disease, when purging has not taken place, six of the pills will be a sufficient dose, all the other doses and appliances being the same.

"In the second form of the disease, as described in my last letter, when purging to any amount has taken place, six pills must be given, with the full amount of the antispasmodic mixture and cordial stimulants, as directed in both the preceding cases; and all the other parts of the treatment already described, must be vigorously



followed out. When, however, there has been no purging, four pills will be a sufficient dose. The perspiration, and the other medicines and cordials, will complete the cure. All unfavorable symptoms will be found here, also, to flow off with the perspiration.

"In the first and mildest form of the disease, the treatment must be upon exactly the same principles, and by similar means, as directed in the other forms of the disease, from the most malignant to this mildest form—the difference consisting only in the amount of the doses of the medicine necessary. Here four of the pills will be a sufficient dose, and one ounce of the antispasmodic mixture, with, however, the full amount of cordial auxiliaries, already directed in the other forms of the disease, followed promptly by the perspiration—this latter being in no case neglected or delayed.

"Such is a very brief summary of the mode of coping with the disease in its various forms. It will be observed that the same remedies are applicable to all forms of the disease—the difference in the treatment consisting merely in the amount of the dose of the medicines necessary to meet the various degrees of malignity. I have directed such first doses of the medicines as are likely to meet the necessity of each particular case, as no repetition of doses answers the purpose so well. Cases, however, may occur, where, to repeat a dose may be necessary: for instance, when the malignancy of a case has been miscalculated; and in such cases the subsidiary dose should be ample and given promptly. When, however, ten grains have been given at first, there will seldom be necessity for an additional dose. It will also be observed, that perspiration is a necessary and most important agent in the cure of any case of the disease, whatever may be the degree of its malignity. In the more malignant forms, it is entirely indispensable. It corrects the morbid determination of the fluids to the internal surfaces, and enables us to repair the injury inflicted on the system by the longer or shorter continuance of the symptoms, and by their greater or less malignancy. And further, it counteracts, in an important degree, the narcotic effects of the large doses of opium which it is necessary to administer.

"In the bounds of this letter, I have been able to do little more than just state general principles. In the application of those principles to individual cases, and to the varied forms of the disease, much must be left to the judgment of the practitioner. I have, however, expounded, more or less particularly, a mode of treating the disease, which fully and efficiently meets all the requirements of cure, and which, if skillfully, boldly and promptly acted on, will cure the disease in every instance where the patient is not in hopeless collapse before it is put in practice.

"My mode of treating cholera differs from every other which has yet been placed before the public. It has not, however, been founded on mere hypothesis, but on a practical experience in the treatment of the disease, which was most extensive, and was successful beyond precedent; and it has been matured by careful and strictly



logical deductions. I direct much larger doses of opium to be given in the cure of the disease, than have ever been prescribed by any other. This fact, of itself, sufficiently distinguishes my mode of treatment from all others. But the grand distinguishing feature, in which it stands alone, is the employment of the powerful agency of perspiration, as a means of cure. This agent has never been recommended, as such, by any other. It is, in fact, by perspiration the disease is cured. Opium is, indeed, a valuable and necessary agent; but it and the other auxiliary medical and cordial stimulants, act merely as handmaidens to the sovereign remedy, which is the application of external dry heat by hot solid substances."

"Bilious diarrhœa never occurs in the consecutive stages of cholera, unless calomel, or some preparation of mercury, has been most improperly and, I would add, most unwarrantably, used in the primary treatment of the disease. When it does occur, it should be treated with the cretaceous mixture, combined with suitable proportions of the tinctures of catechu and opium; and, in addition, if obstinate, by anodyne injections, giving at the same time small and frequently repeated doses of sulphur, for the purpose of neutralizing the mercury, and for counteracting its action on the liver. The strength is at the same time to be supported by wine, beef-tea, &c. Great care should be taken not to allow the patient to get out of bed, or stand in the erect posture, till the strength of the body and the healthy tone of the nervous system have been sufficiently re-established. Fatal consequences have sometimes arisen from not attending to this precaution. In a hospital, a woman, who had a very favorable recovery from an attack of cholera, lost her life by imprudence in this respect. Contrary to the orders of the superintending physician, and in opposition to the remonstrances of the attendants, she got out of bed, and while in the act of dressing herself, in an erect posture, she suddenly fell on the floor in a fainting state. The excretory vessels being unable to sustain the superincumbent weight of the fluids of the body, became dilated; the serum, or watery part of the blood, escaped into the bowels, and she passed several quarts of fluid, as clear as water, before she could be lifted into bed. She was dead within less than two hours afterward, having manifested all the symptoms of one who had been bled to death.

"In directing the treatment of the mildest form of the disease, I omitted to state that, should the practitioner find his patient affected with pain of stomach, headache and vomiting, along with a hot skin and a full strong pulse, and should he find that the bowels have been previously much confined, he ought, before giving the antispasmodic pills or draught, as ordered, cause the bowels to be unloaded by means of an enema."

"Amongst the objectionable remedies which have been employed for the cholera, the first which I shall notice is blood-letting.

"With regard to this remedy I would remark, that I cannot conceive how any rational practitioner could think of using, for the cure of this disease, a remedy which produces on the constitution an

effect the very opposite to that which it should be his object to accomplish—a remedy which would aggravate, rather than relieve, the symptoms. The effect produced by blood-letting is relaxation. It is with this view it is generally employed; as, for instance, in inflammations and in certain cases of rigidity. The depletion of the vascular system by blood-letting, suddenly removing the accustomed pressure or bracing support from the brain, has the effect of diminishing the tone and energy of that organ, and, of course, of the nervous system. Hence the supply of energy to the muscles is lessened, and a corresponding diminution of the contractile power of muscular fibre is produced. Now, from what has been stated in the preceding letters, the reader will at once perceive that a precisely similar state of things take place in cholera. I need not say, then, that blood-letting should be at once discarded from the treatment of the disease; for every man possessed of a reasoning mind, who has read my preceding letters, will at once perceive that it deprives the patient of many of his chances of cure; and that, by diminishing the force of the resisting power of the vessels through which the serum of the blood escapes, it tends only to hasten the fatal event. All the symptoms at which any man could grasp, in justifying the use of the lancet in the earliest stages of cholera, can be at once relieved by a free perspiration. I was once taken to visit a young gentleman, of eighteen years of age, who was seized with premonitory symptoms of cholera. One of the same family had, a few days before, died of the disease in a few hours' illness. He complained of great præcordial oppression; violent pain over the region of the stomach, increased by pressure; great sickness and retching; but nothing ejected from the stomach; a painful feeling over every part of the body, as if he had been beaten with a stick; and severe headache. His face flushed; his eyeballs swollen and painful, with a feeling as if they were about to start from their sockets; his tongue white, his skin hot and dry; pulse one hundred and twenty, exceedingly full, strong and bounding. His bowels had not been affected. After cautioning the medical gentleman present, not to allow such symptoms, as those of which the patient complained, to betray them into the use of the lancet in similar cases, I ordered the patient a suitable dose of the pills and draught prescribed in my preceding letters, with as much mild drink as would wash them down. I then ordered hot substances to be applied to his feet, and different parts of his body, with a view to produce perspiration; and, after giving the attendants the necessary directions about what drink he was to get, and when he should have it, I took my leave. After the lapse of an hour I again visited him, and found him perspiring freely; his skin quite cool; his pulse sixty, soft and regular; and he was entirely free from pain of every kind. He declared that he was then as well as he had ever been in his life, and expressed a wish to get out of bed. The crushing about the heart and the pains, flowed off with the perspiration. He said that he had not perspired many minutes till he was free from pain, sickness at

stomach, and every complaint. He had quite recovered, and was walking about next day. I need not waste your valuable space, or the reader's time, with further comment on so absurd a remedy as bleeding.

"The next remedy which I shall notice is calomel—a medicine which, in this and all other countries, has been universally used for the cure of the disease.

"Calomel, like blood-letting, tends only to hasten the fatal termination in cholera. It does more: those who escape or recover, in spite of the effects of it, do so at the expense of a ruined constitution. The reasons which are given by medical writers for using it in that disease, are absurd, and are founded on a total misconception of its nature. Some say that they give calomel, combined with opium, as a stimulant. 'Powerful stimuli,' say they. Opium, as has been already stated, is a powerful and very valuable stimulant; but the chief stimulating effect produced by calomel, in that disease, is on the mucous membrane of the stomach and intestines, increasing the discharges from them, which it should be the object to prevent. Mr. Orton, in his work on 'Cholera,' says that the calomel was found adhering to inflamed patches on the internal surfaces of the stomach and intestines of many of those who died of cholera in India. No doubt it had stimulated these parts with a vengeance! The following are that gentleman's words: 'Calomel was frequently found at the bottom of the fluid contents, and adhering in various places to the *mucous* coat.' In a note appended to the same, he adds: 'I have been informed by a practitioner, in whose observation I have great confidence, that he had frequently found this medicine adhering chiefly to those parts of the stomach which were inflamed.'—[See Mr. Orton's Essay on the Epidemic Cholera of India, page 42.] Here, then, is positive evidence of the destructive effects of calomel, even in India—the boasted birth-place of the practice.

"Others, again, say, that they administer the calomel with a view to restore the biliary secretion, which they allege is suspended in the disease. On this subject I beg leave to observe, that the suspension of the secretions in cholera is not the *cause*, but the *effect*, of the morbid action. When the morbid action is corrected, the secreting organs generally resume their functions without any assistance. And even though they should not, it is only after the disease has been cured, that medicine will have any salutary effects on those organs. First, then, cure the disease; and afterward, if necessary, let attention be directed to the secretions. I would remark, however, that though, for a very obvious reason, the suspension of the secretion of urine, is a characteristic symptom of cholera, yet it does not appear that the secretion of bile is ever, for any length of time, suspended in that disease, even though it does not come off in the discharges. On a *post mortem* examination of the bodies of those who have died of the disease, the gall bladder has always been found distended with bile. It is not, therefore, so much a suspen-

sion of the secretion of bile, as a retention of that fluid, which accounts for its non-appearance in the discharges. Did time and space permit, I could satisfactorily explain the cause of its retention in cholera. I do not conceive it right, however, to allow that explanation to occupy the space which should be allotted to more important matters, particularly as, when the disease was cured, I never knew an instance in which the secretory organs did not resume their functions; and even though calomel should not counteract the effects of other remedies, which it does, or produce destructive effects on the constitution, I cannot see any use in employing it in a disease where it has no time to act. If the discharges be made profuse and watery, and follow each other in quick succession, as, in a malignant case, they generally do, they may carry the patient beyond the boundaries of human aid in less than an hour. In such cases the calomel has not sufficient time to be absorbed, even though the absorbent vessels were in a fit state to take it up. The absorbents on the internal surfaces, in that disease, however, do not act at all, till the morbid action is corrected. Those cases, therefore, in which calomel produced salivation, did not deserve the name of cholera.

"The advocates for the use of calomel in cholera, say that all their patients who have been salivated by that medicine have recovered; and this alleged fact, they presume, is an argument in favor of its employment for the cure of that disease. Now, to those who do not understand the subject, this would appear to be a very plausible argument. A little examination, however, will show the fallacy of it. First, I would remark, that many have been subjected to treatment for cholera who never had the disease at all. Secondly, during the prevalence of the disease, individual cases do sometimes, nay, often, occur, in which the *vis medicatrix naturæ* would succeed in throwing off the disease without the aid of remedies, or in spite of the counteracting effects of the calomel. And, lastly, opium, which is generally administered in conjunction with the calomel, and an accidental perspiration, may succeed in curing a very mild case of the disease, as has been already stated, notwithstanding the prejudicial effects of the latter medicine. Now, whatever calomel may remain in the stomach and intestines of these patients, after the disease has been cured, will, no doubt, be absorbed, and will salivate them in good earnest, and will thus, after the cure of the disease by other remedies, produce a new disease, in some cases worse than cholera itself. Hundreds have, in this way, been so disabled as to be rendered incapable of earning a loaf of bread for themselves, and have been left to drag out a miserable existence, with shattered and ruined constitutions, from the effects of calomel administered to them for the cure of cholera. But none of these facts prove that the calomel, or the salivation produced by it, had any efficacy in the cure of the disease. The fact is, calomel will not act on the system in any way to produce salivation, until the morbid action constituting the disease has been counteracted and

reversed, either by the agency of other remedies, or by the reactive power of nature herself.

"The enormous quantities of calomel which were given to patients in cholera, during the prevalence of the disease in these countries, were of themselves sufficient to destroy life, even though the individuals to whom they were administered had been, at the time, free from any specific disease. Twenty grains of calomel and two grains of opium, to be repeated every two hours till the symptoms should abate, were directed to be given in the books and pamphlets published on the subject at that period. A physician, who is now a vicar of some parish in England, in a letter published in the *London Times* newspaper, about two months ago, says that the best remedy he ever saw employed (and it was in New York he had seen it) was twenty grains of opium for one dose. A physician told myself that his dose was forty grains of calomel and two grains of opium. I shall content myself with only one specimen of the extent to which the calomelizing practice has been carried. A man was admitted into the Belfast hospital, whose mouth was nearly hermetically sealed up from the effects of calomel, which had been administered to him for the cure of an alleged attack of cholera, so that no food could be conveyed into his stomach but beef tea, thin gruel, or milk, and these he had to suck in through apertures between his remaining teeth. Such an extensive excoriation and ulceration of the gums, jaws, lips, and cheeks had taken place, from the salivating effects of the calomel, that extensive adhesions had formed between these surfaces throughout their whole extent. His lips and cheeks adhered firmly to the gums and jaws, so that Mr. Moore, the talented and skillful surgeon to the hospital, was obliged to dissect these parts asunder, to cut out masses of flesh between the inner angles of the jaws, and to stuff the inner sides of the cheeks and lips with lint, soaked in oil, to prevent their re-adhesion to the subjacent parts, and to gag the jaws asunder with cork, till these parts healed. Why unnecessarily inflict such misery?

"I have not only already amply proved that calomel is unnecessary for the cure of cholera, but I have now shown that it is destructive. I have cured from two to three thousand cases without a single grain of calomel. I have a right, therefore, to form a judgment on the subject. I trust I have now set the bleeding and calomelizing mode of treating cholera at rest; and as I have directed a mode of treating that disease, which, if timely and skillfully employed, will infallibly cure it in every instance, I shall not delay further by noticing any more of the nostrums which have been recommended for its treatment.

"In conclusion, lest any one, from the foregoing remarks, should be deterred from the use of calomel in other diseases where it may be requisite, I would observe, that we do not possess a more safe or a more valuable medicine when skillfully administered, in cases where its use is proper."

## Familiar Table-Talk.

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THE title-page on the cover of this journal has, doubtless, often attracted the attention of my readers. It presents a rich Gothic design, in the midst of which the subject of the *Journal of Man* is illustrated by the Human Brain, flashing a brilliant light through the clouds of darkness and ignorance by which it is surrounded. This indicates our cardinal idea: that true anthropological science must be derived from the brain; and that the light from this source illuminates all departments of knowledge.

In the niches on the right and left, emblematical figures have been placed; while above the arches, a neurological bust presents a compendious illustration of the science.

At the foundation of the arches we observe a horizontal range of the crania of the vertebrated animal kingdom, from the fish to man, illustrating the fact, that the craniological researches of Gall laid the foundation upon which the present anthropological superstructure has been reared.

On the right hand is seen a statue, presenting the entire man as the subject of a science. This statue, curiously divided into different regions, illustrates one of the most important discoveries of the new anthropological system, to wit: that each region of the body connects with a corresponding region of the brain; and that the whole body should be subdivided into the same regions, or organs, as the brain. These regions of the body present an analytical basis for corporeal physiognomy, and explain all the wonderful sympathies between the mind and the body. The importance and extent of these correspondences and physiological connections can scarcely be conceived, until the subject has been developed in detail.

On the pedestal of this statue, the human head, surrounded by radii, illustrates the mathematical principles that will, hereafter, be developed.

Above the statue, a globe, moving in the distance, indicates the microcosmal relations of man, and the philosophy of spheres, as applied to the human being—while the fixed star, above the whole, indicates that the principles and applications of the science have a range which extends even beyond our own globe.

On the left hand we observe a skeleton, standing upon a pedestal, where a butter-fly is rising from its chrysalis condition, while, above its head, a cherub is soaring to the stars. In this we perceive that the science is not confined merely to the living, physiological man, but extends from the anatomical foundation of his constitution through the realms of spiritual life. The butter-fly, cherub and star, as emblems of immortality, remind us of the vast regions of psychological science, and trans-material existence, which wait the incursions of experimental philosophy.



